

(FILE 'HOME' ENTERED AT 11:55:13 ON 29 JUN 2003)

FILE 'CAPLUS' ENTERED AT 11:56:04 ON 29 JUN 2003

L1 243625 S STYRENE  
L2 70471 S METHYLMETHACRYLATE OR METHYL METHACRYLATE  
L3 81854 S ACRYLONITRILE  
L4 179827 S ?BUTADIENE? OR ?ISOPRENE?  
L5 81453 S ?EMULSIF?  
L6 104 S L1 AND L2 AND L3 AND L4 AND L5  
L7 1043889 S BULK OR TOLUENE OR CLOROFORM OR ACETONE OR SOLVENT OR MEK  
L8 13 S L6 AND L7  
L9 0 S L6 AND CHLOROFORM  
L10 195 S YOO?/IN AND CHOI?/IN  
L11 9 S TRANSPAREN? AND L10  
L12 213798 S EMULSION?  
L13 501 S L1 AND L2 AND L3 AND L4 AND L12  
L14 65 S L7 AND L13  
L15 65 S L14 NOT L11

=> s l15 and ?graft?

117512 ?GRAFT?

L16 35 L15 AND ?GRAFT?

**Set Name Query**

side by side

*DB=USPT; PLUR=YES; OP=ADJ***Hit Count Set Name**

result set

<u>L28</u>	l26 and L27	1	<u>L28</u>
<u>L27</u>	l1 same l2 same emulsion	3440	<u>L27</u>
<u>L26</u>	msan	43	<u>L26</u>
<u>L25</u>	msan near l1 bulk	0	<u>L25</u>
<u>L24</u>	msan near 6 bulk	0	<u>L24</u>
<u>L23</u>	('4657976'  '4518515')[PN]	2	<u>L23</u>
<u>L22</u>	l1 and l2 and l21	3	<u>L22</u>
<u>L21</u>	('4657976'  '5434219'  '4518515')[PN]	3	<u>L21</u>
<u>L20</u>	l13 and l19	28	<u>L20</u>
	('4657976'  '4918118'  '4551500'  '5434219'  '5270387'  '4876145'  '3900528'  '3900529'  '3939223'  '3956424'  '5872184'  '4229549'  '3671607'  '3959408'  '4732807'  '4904730'  '3862264'  '5250617'  '4337324'  '4902744'  '4902745'  '4113798'  '5889113'  '4916186'  '4940747'  '4000219'  '4518515'  '5492966')[PN]	28	<u>L19</u>
<u>L18</u>	l1 and l2 and l11 and L17	28	<u>L18</u>
<u>L17</u>	l9 same l15	3431	<u>L17</u>
<u>L16</u>	l14 and L15	51	<u>L16</u>
<u>L15</u>	solvent or methylene chloride or chloroform or toluene or benzene or hexane or pentane acetone or mek or methylethylketone	511517	<u>L15</u>
<u>L14</u>	l1 and l2 and l11 and L13	62	<u>L14</u>
<u>L13</u>	l9 same l10	7276	<u>L13</u>
<u>L12</u>	l1 and l2 and l9 and l10 and L11	152	<u>L12</u>
<u>L11</u>	((525/83  525/84 )!.CCLS. )	508	<u>L11</u>
<u>L10</u>	solvent or methylene chloride or chloroform or toluene or benzene or hexane or pentane or ether or acetone or mek or methylethylketone	554755	<u>L10</u>
<u>L9</u>	msan or L8	16031	<u>L9</u>
<u>L8</u>	l4 same l5 same l6	15993	<u>L8</u>
<u>L7</u>	l1 and l2 and l4 and l5 and L6	5492	<u>L7</u>
<u>L6</u>	styrene	131520	<u>L6</u>
<u>L5</u>	acrylonitrile or acrylnitrile or vinylcyanide or vinyl cyanide	73185	<u>L5</u>
<u>L4</u>	methylmethacrylate or methyl methacrylate	52409	<u>L4</u>
<u>L3</u>	L2	88559	<u>L3</u>
<u>L2</u>	butadiene or polybutadiene	88559	<u>L2</u>
<u>L1</u>	latex	51316	<u>L1</u>

END OF SEARCH HISTORY

AN 2002:264992 CAPLUS

DN 136:310842

TI Fire-, impact-, heat-, and moisture-resistant polycarbonate compositions containing organophosphorus oligomers and showing reduced mold deposits, good fluidity, and low yellowing index

IN Miyamoto, Akira; Shibuya, Kazuhiro

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L069-00

ICS C08K005-1515; C08K005-521; C08L069-00; C08L025-12; C08L055-02;

C08L051-04

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002105299	A2	20020410	JP 2000-300479	20000929
PRAI	JP 2000-300479		20000929		

AB Title compns. comprise (A) 50-98 parts arom. polycarbonates, (B) 0-49 parts arom. vinyl-cyanovinyl compd. copolymers, (C) 0.5-30 parts **graft** copolymers manufd. by copolyimg. arom. vinyl compds. with cyanovinyl compds. in the presence of rubbers, (D) 0.5-30 parts **graft** copolymers manufd. by copolyimg. arom. vinyl compds. with alkyl (meth)acrylates in the presence of **butadiene** rubbers, (E) 0.1-30 parts organophosphorus oligomers with acid value <1 mg KOH/g, and (F) 0.01-1 part epoxy compds., wherein the total of (A)-(D) is 100 parts. Thus, a compn. contg. 60/40 Iupilon S 2000-Iupilon H 4000 mixt. (both bisphenol A polycarbonate) 80, **acrylonitrile-styrene** copolymer (Mw 130,000) 11, RC (ABS) 6, M 51 (Me methacrylate-**butadiene-styrene graft** copolymer) 3, (PhO)2PO[O-4-C6H4CMe2C6H4-4-OPO(OPh)]1.11OPh 14, ERL 4221 (3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexanecarboxylate) 0.05, Teflon 30J (PTFE) 0.3 part, and additives, was injection molded for 2000 shots. No mold deposits was obsd.

ST heat moisture resistance polycarbonate fireproofers organophosphorus; bisphenol polycarbonate blend **acrylonitrile styrene** copolymer; **graft** ABS polycarbonate blend fireproofers fluidity; **butadiene** rubber **graft** polymethacrylate impact resistance; mold deposit free polycarbonate epoxide fireproofers

IT Epoxides

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(alicyclic; fire-, impact-, heat-, and moisture-resistant polycarbonate compns. with reduced mold deposits)

IT Polycarbonates, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(arom.; fire-, impact-, heat-, and moisture-resistant polycarbonate compns. with reduced mold deposits)

IT Polymerization

(**bulk**; fire-, impact-, heat-, and moisture-resistant polycarbonate compns. with reduced mold deposits)

IT Polymerization

(**emulsion, graft**; fire-, impact-, heat-, and moisture-resistant polycarbonate compns. with reduced mold deposits)

IT Soybean oil

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(epoxidized, Kapox S 6; fire-, impact-, heat-, and moisture-resistant polycarbonate compns. with reduced mold deposits)

IT Fire-resistant materials

Fireproofing agents

Impact modifiers  
 Impact-resistant materials  
 Water-resistant materials  
   (fire-, impact-, heat-, and moisture-resistant polycarbonate compns.  
   with reduced mold deposits)

IT Fluoropolymers, uses  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
   (fire-, impact-, heat-, and moisture-resistant polycarbonate compns.  
   with reduced mold deposits)

IT ABS rubber  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
   (fire-, impact-, heat-, and moisture-resistant polycarbonate compns.  
   with reduced mold deposits)

IT Molded plastics, uses  
 Polymer blends  
 RL: TEM (Technical or engineered material use); USES (Uses)  
   (fire-, impact-, heat-, and moisture-resistant polycarbonate compns.  
   with reduced mold deposits)

IT Polymerization  
   (**graft**; fire-, impact-, heat-, and moisture-resistant  
   polycarbonate compns. with reduced mold deposits)

IT 107080-92-2, **Butadiene-methyl methacrylate-**  
**styrene graft** copolymer  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
   (M 51, impact modifier; fire-, impact-, heat-, and moisture-resistant  
   polycarbonate compns. with reduced mold deposits)

IT 9003-56-9  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
   (abs rubber, fire-, impact-, heat-, and moisture-resistant  
   polycarbonate compns. with reduced mold deposits)

IT 106677-58-1P, **Graft** ABS resin  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
   (fire-, impact-, heat-, and moisture-resistant polycarbonate compns.  
   with reduced mold deposits)

IT 9002-84-0, Teflon 30J 25068-38-6, Bisphenol A-epichlorohydrin copolymer  
 25085-98-7, ERL 4221 26299-49-0, Bisphenol A-2-methylepichlorohydrin  
 copolymer 156831-22-0, ADK Cizer EP 17  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
   (fire-, impact-, heat-, and moisture-resistant polycarbonate compns.  
   with reduced mold deposits)

IT 9003-54-7, **Acrylonitrile-styrene** copolymer  
 24936-68-3, Bisphenol A-phosgene copolymer, sru, uses 25929-04-8,  
 Bisphenol A-diphenyl carbonate copolymer 25971-63-5, Bisphenol  
 A-phosgene copolymer  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
   (fire-, impact-, heat-, and moisture-resistant polycarbonate compns.  
   with reduced mold deposits)

IT 31870-48-1 57583-54-7, CR 733S  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
   (fireproof; fire-, impact-, heat-, and moisture-resistant  
   polycarbonate compns. with reduced mold deposits)

L16 ANSWER 2 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 2001:778018 CAPLUS

DN 135:346029

TI Gravure printing paper and coating **emulsion** compositions for its  
 manufacture

IN Ooi, Hirofumi; Kotani, Akira

PA San Nopco Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM D21H019-56  
 ICS C08F008-44; C08F222-02; C09D005-02; C09D133-02  
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
 Section cross-reference(s): 42

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001295195	A2	20011026	JP 2000-103998	20000405
PRAI	JP 2000-103998		20000405		

AB The compns. giving coated paper with good ink receptivity are obtained from pigments and an alkali-thickened **emulsion** of acrylic polymers prepd. in the presence of anionic surfactant-type emulsifying agent and having a completely NaOH-neutralized soln. viscosity at a 2% concn. and 25.degree. of 100-20,000 mPa.cntdot.s, where the acrylic polymers comprise units derived from (meth)acrylic acid, alkoxypropoxyalkylated (meth)acrylic acid ester, C1-2 alkyl (meth)acrylate, C3-22 alkyl (meth)acrylate and (meth)**acrylonitrile** or styrenic compd. at specified component ratio for improving the coat layer **bulk** property. Thus, mixing water 600 with methacrylic acid 169.9, octadecoxypolyoxyethylene methacrylate ester 2.8, Et methacrylate 86.3, 2-ethylhexyl acrylate 5.6, **acrylonitrile** 13.9 and polyethylene glycol stearyl ether sulfate ester Na salt 21.2 while dropping a 0.2% Na persulfate aq. soln. 100 parts over 3 h at 80-100.degree. and maturing at this temp. for 3 h gave a white **emulsion** with solids concn. 30%, viscosity 20 mPa.cntdot.s, and 2% NaOH-neutralized soln. viscosity 1000 mPa.cntdot.s. A coating compn. contg. UW-90 (kaolin) 85, Ansilex (calcined kaolin) 15, SN Dispersant 5040 (a dispersant) 0.2, NaOH 0.1-0.3, JSR 0629 (SBR) 6 and the **emulsion** 0.2 (as solids) parts had good compatibility with SBR latex, low shear viscosity 3100 mPa.cntdot.s, high shear viscosity 27 mPa.cntdot.s, water retention 38 g/m2 and good ink receptivity.

ST printing gravure paper coating latex acrylate copolymer; alkoxypropoxyalkylated acrylate ester copolymer coating latex gravure printing paper; anionic emulsifier acrylic polymer latex paper coating

IT **Styrene-butadiene** rubber, uses  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (JSR 0629, binder; gravure printing paper and coating **emulsion** compns. for manuf.)

IT Polymerization  
 (**emulsion**; gravure printing paper and coating **emulsion** compns. for manuf.)

IT Emulsifying agents  
 (gravure printing paper and coating **emulsion** compns. for manuf.)

IT Coating materials  
 (latex; gravure printing paper and coating **emulsion** compns. for manuf.)

IT Paper  
 (printing, gravure; gravure printing paper and coating **emulsion** compns. for manuf.)

IT 370109-03-8P 370109-04-9P 370109-05-0P 370109-06-1P 370109-07-2P  
 370109-08-3P 370109-09-4P 370885-47-5P, Ethylene oxide-hexyl methacrylate-methacrylic acid-**methyl methacrylate**-propylene oxide-**styrene graft** copolymer hexyl ether 370885-49-7P, **Acrylonitrile**-ethylene oxide-2-ethylhexyl acrylate-ethyl methacrylate-methacrylic acid **graft** copolymer octadecyl ether 370885-50-0P, Ethyl acrylate-ethylene oxide-methacrylic acid **graft** copolymer hexyl ether 370885-52-2P, Ethylene oxide-ethyl methacrylate-methacrylic acid **graft** copolymer hexyl ether 370885-54-4P 370885-56-6P, Butyl methacrylate-ethyl acrylate-2-ethylhexyl acrylate-ethylene oxide-methacrylic acid **graft** copolymer behenyl ether 370885-58-8P,

**Acrylonitrile-ethylacrylate-ethylene oxide-methacrylic acid graft copolymer hexyl ether 370885-59-9P, Ethyl acrylate-ethylene oxide-methacrylic acid-styrene graft copolymer octadecyl ether**

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(co-binder; gravure printing paper and coating **emulsion** compns. for manuf.)

IT 34431-26-0, Polyethylene glycol stearyl ether sulfate ester sodium salt  
53879-53-1, Polyethylene glycol nonylphenyl ether sulfate ester potassium salt  
56685-58-6, Polyethylene glycol nonylphenyl ether phosphate monoester disodium salt

RL: MOA (Modifier or additive use); USES (Uses)

(emulsifier; gravure printing paper and coating **emulsion** compns. for manuf.)

IT 34431-25-9, Polyethylene glycol octyl ether sulfate ester sodium salt  
55348-40-8, Polyethylene glycol octylphenyl ether sulfate ester sodium salt  
100494-41-5, Polyethylene glycol octylphenyl ether phosphate diester potassium salt 370109-10-7

RL: MOA (Modifier or additive use); USES (Uses)

(emulsifying agents; gravure printing paper and coating **emulsion** compns. for manuf.)

IT 9003-55-8

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(**styrene-butadiene** rubber, JSR 0629, binder; gravure printing paper and coating **emulsion** compns. for manuf.)

L16 ANSWER 3 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 2000:428053 CAPLUS

DN 133:59586

TI Impact-resistant vinyl copolymer-**graft** copolymer blend compositions and their manufacture

IN Yasuda, Minoru; Kishimoto, Akihiko; Sato, Hiroshi

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L055-02

ICS C08L025-12; C08L051-04

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 39

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000178405	A2	20000627	JP 1999-286548	19991007
PRAI	JP 1998-285590	A	19981007		

AB In the process, (A) 10-95 parts melting vinyl copolymers prepd. by continuous **bulk** polymn. of vinyl monomer mixts. which may contain arom. vinyl monomers are mixed in extruders with (B) 5-90 parts **graft** copolymers prepd. by **emulsion graft** polymn., preferably of vinyl monomer mixts. which may contain arom. vinyl monomers and may be run in the presence of rubbers, and coagulation of the **graft** copolymers using inorg. salts or inorg. acids, wherein B contains 5-60% water on mixing with A and the water is removed while mixing. The compns. exhibit good moldability, color, and well-balanced impact resistance and rigidity. Thus, a compn. comprised 67 parts 70:30 **styrene-acrylonitrile** copolymer, 33 parts 50:35:15 **polybutadiene-styrene-acrylonitrile graft** copolymer with **graft** ratio 45% and water content 25%, tert-butylhydroxytoluene, and tri(nonylphenyl)phosphite. The pellet had yellowness index 22. The compn. showed Izod impact strength 250 J/m, tensile strength 40 MPa, and unreacted monomer content to the resin 780 ppm.

SI impact resistance vinyl copolymer **graft** copolymer blend; arom  
 vinyl polymer compn impact resistance; rubber **graft** arom vinyl  
 polymer impact resistance; acrylonitrile **styrene** copolymer compn  
 impact resistance; **butadiene** rubber **graft**  
**acrylonitrile styrene** copolymer; ABS **graft**  
 resin blend impact resistance  
 IT Impact-resistant materials  
 (impact-resistant vinyl copolymer-rubber **graft** copolymer  
 blend compns. and their manuf.)  
 IT Polymer blends  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
 (impact-resistant vinyl copolymer-rubber **graft** copolymer  
 blend compns. and their manuf.)  
 IT 9003-54-7P, **Acrylonitrile-styrene** copolymer  
 25213-88-1P, **Acrylonitrile-methyl methacrylate**  
**-styrene** copolymer 31621-07-5P, **Acrylonitrile**  
**-N-phenylmaleimide-styrene** copolymer 106677-58-1P,  
**Acrylonitrile-butadiene-styrene graft**  
 copolymer 107592-06-3P, **Acrylonitrile-butadiene-**  
**methyl methacrylate-styrene graft**  
 copolymer 110186-79-3P, **Acrylonitrile-butadiene**  
**-N-phenylmaleimide-styrene graft** copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); PREP (Preparation); USES (Uses)  
 (impact-resistant vinyl copolymer-rubber **graft** copolymer  
 blend compns. and their manuf.)

L16 ANSWER 4 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 2000:59150 CAPLUS

DN 132:108479

TI Manufacture of **butadiene graft** copolymer latexes and  
 powders without using organic solvents

IN Ito, Takaaki; Toritani, Akihiro; Sugihara, Masaki; Makino, Hideaki

PA Mitsubishi Rayon Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08F006-22

ICS C08F279-02

CC 35-4 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000026526	A2	20000125	JP 1998-197868	19980713
PRAI	JP 1998-197868		19980713		

AB The latexes are manufd. by **emulsion** polymn. of **butadiene**  
 elastomers and monomers selected from alkyl (meth)acrylates, arom. vinyl  
 compds., and cyanated vinyl compds. and coagulation of the resulting  
**graft** copolymers by acidic coagulants, where a coagulation process  
 comprising addn. of rigid nonelastomeric polymer latexes with Tg  
 .ltoreq.50.degree. to the **graft** polymers (solids content  
 .gtoreq.20%) at .ltoreq.60.degree., and a solidification process  
 comprising heating the resulting slurries to 75-100.degree. are included.  
 Thus, a **butadiene-styrene** copolymer latex was polymd.  
 with Me methacrylate (I) and Et acrylate, treated with H2SO4 and a Bu  
 acrylate-I copolymer latex at 30.degree., heated to 90.degree., and dried  
 to give polymer powders showing **bulk** sp. gr. 0.35 g/cm3, good  
 flowability, and low water content.

ST **butadiene** rubber latex **emulsion** polymn coagulation;  
 polyacrylate **graft** latex coagulation heating flowability

IT Polymerization  
 (**emulsion**; manuf. of **butadiene graft**  
 copolymer latexes and powders with good flowability)

IT Coagulants  
 Coagulation  
 (manuf. of **butadiene graft** copolymer latexes and

IT 7664-93-9, Sulfuric acid, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (coagulants; manuf. of **butadiene graft** copolymer  
 latexes and powders with good flowability)

IT 110453-26-4P, **Butadiene**-divinylbenzene-ethyl acrylate-  
**methyl methacrylate-styrene graft**  
 copolymer 114349-05-2P, **Acrylonitrile-butadiene**  
 -butyl acrylate-**methyl methacrylate-styrene**  
**graft** copolymer 118268-68-1P, **Butadiene**-butyl  
 acrylate-methacrylic acid-**methyl methacrylate-**  
**styrene graft** copolymer  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
 (manuf. of **butadiene graft** copolymer latexes and  
 powders with good flowability)

L16 ANSWER 5 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 2000:48081 CAPLUS

DN 132:64663

TI **Graft** copolymerization of **styrene** series monomers and  
**butadiene**-based rubber

IN Huang, Shaoqiu

PA Qimei Industry Co., Ltd., Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 25 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

IC ICM C08F290-02

CC 35-4 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1156730	A	19970813	CN 1996-101253	19960208
	CN 1056387	B	20000913		
PRAI	CN 1996-101253		19960208		

AB Rubber based on **butadiene**, **styrene** (St) derivs.  
 including St, and nitrile vinyl (NV) monomers were **graft**  
**emulsion**-polymd., to give **graft** copolymer (A); A 0.1-6,  
 acrylic polymer (B) (such as **styrene-acrylonitrile**  
 copolymer, Me methacrylate-**styrene** copolymer) 0.1-10, St deriv.  
 monomer 45-80, NV monomer 15-50, and other monomer (such as maleimides)  
 0-40 parts were polymd. (continuous **bulk** and/or soln. copolymn.)  
 at 80-200.degree. and pressure 1-5 kg cm-2 for 1-5 h, to give  
 rubber-contg. St resins after removing unreacted monomers and volatile  
 components.

ST **styrene butadiene** rubber **graft** polymn

IT Synthetic rubber, preparation

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)

(**butadiene**-ethylene glycol dimethacrylate; **graft**  
 copolymn. of **styrene** series monomers and **butadiene**  
 -based rubber)

IT 25212-88-8P, Methacrylic acid-ethyl acrylate copolymer

RL: NUU (Other use, unclassified); PRP (Properties); SPN (Synthetic  
 preparation); PREP (Preparation); USES (Uses)

(**graft** copolymn. of **styrene** series monomers and  
**butadiene**-based rubber)

IT 9003-54-7P, **Acrylonitrile-styrene** copolymer

25034-86-0P, **Methyl methacrylate-styrene**

copolymer 100601-84-1P, **Butadiene**-ethylene glycol

dimethacrylate-ethyl acrylate-methacrylic acid copolymer 252846-17-6P,

**Acrylonitrile-butadiene**-ethylene glycol

dimethacrylate-ethyl acrylate-methacrylic acid-**styrene**

**graft** copolymer

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)

(**graft** copolymn. of **styrene** series monomers and



IT 252861-20-4P, **Acrylonitrile-butadiene-ethylene glycol dimethacrylate-ethyl acrylate-methacrylic acid-methyl methacrylate-styrene graft** copolymer  
253304-16-4P, **Acrylonitrile-1,3-butadiene-ethylene glycol dimethacrylate-ethyl acrylate-methacrylic acid-methyl methacrylate-.alpha.-methylstyrene-styrene graft** copolymer 253304-17-5P, **Acrylonitrile-1,3-butadiene-ethylene glycol dimethacrylate-ethyl acrylate-methacrylic acid-methyl methacrylate-N-phenylmaleimide-styrene graft** copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(**graft** copolymn. of **styrene** series monomers and **butadiene**-based rubber)

IT 56466-61-6P, **Butadiene-ethylene glycol dimethacrylate** copolymer  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(rubber; **graft** copolymn. of **styrene** series monomers and **butadiene**-based rubber)

L16 ANSWER 6 OF 35 CAPLUS COPYRIGHT 2003 ACS  
AN 2000:25996 CAPLUS  
DN 132:50436  
TI Preparation of rubber **grafted** acrylate-**acrylonitrile-styrene** copolymer and blend comprising same resin  
IN Huang, Wenbin; Xue, Dongbi  
PA Qimei Industry Co. Ltd., Peop. Rep. China  
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 26 pp.  
CODEN: CNXXEV  
DT Patent  
LA Chinese  
IC ICM C08L051-04  
ICS C08L051-08  
CC 35-8 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 37, 39

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1152006	A	19970618	CN 1995-120407	19951215
PRAI	CN 1995-120407		19951215		

AB The blend comprises **graft** copolymer A 5-90, **graft** copolymer B 5-90, and a **styrene-acrylonitrile** copolymer 5-90 parts. The **graft** copolymer A is prepd. by **bulk** polymn. and/or soln. polymn. **grafting** rubber **grafted** copolymer (0.05-0.8 .mu.m) 0.1-10, propylene-type copolymer 0.1-10, with 100 parts of monomers contg. **styrene**-type monomer 45-80, **acrylonitrile**-type monomer 15-50, and comonomer 0-40 parts. The **graft** copolymer B is prepd. by **bulk** polymn. and/or soln. polymn. **grafting** diene rubber 5-25 parts, with **styrene**-type monomer 50-80, **acrylonitrile**-type monomer 20-50, and comonomer 0-40 parts. The **styrene-acrylonitrile** copolymer is prepd. by **emulsion** polymn. **grafting** **butadiene** rubber (0.05-0.8 .mu.m) 50-85 parts, with **styrene**-type monomer, **acrylonitrile**-type monomer and comonomer 15-50 parts. The rubber **grafted** copolymer **emulsion** has **graft** ratio 10-40%, and the mol. wt. of the hard copolymer is 40,000-120,000. Thus, a blend comprising a synthesized methacrylic acid-**acrylonitrile-1,3-butadiene-Et** acrylate-ethylene glycol dimethacrylate-Me methacrylate-**styrene graft** copolymer 46.1, a second **graft** copolymer 31.3, and a copolymer 22.6 parts had Izod impact strength 29.6 kg.cm/cm.

ST **butadiene styrene** acrylate **acrylonitrile graft** copolymer; blend rubber **graft styrene** copolymer compn

IT **Butadiene** rubber, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP

(prepn. of rubber **grafted acrylate-acrylonitrile-styrene** copolymer and blend comprising same resin)

IT Polymer blends  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(prepn. of rubber **grafted acrylate-acrylonitrile-styrene** copolymer and blend comprising same resin)

IT 9003-17-2P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(**butadiene** rubber, **graft** polymers; prepn. of rubber **grafted acrylate-acrylonitrile-styrene** copolymer and blend comprising same resin)

IT 25212-88-8P, Ethyl acrylate-methacrylic acid copolymer 56466-61-6P, **Butadiene**-ethylene glycol dimethacrylate copolymer  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(in prepn. of rubber **grafted acrylate-acrylonitrile-styrene** copolymer involving synthesis and **grafting** of)

IT 25034-86-0P, **Methyl methacrylate-styrene** copolymer 106677-58-1P, **Acrylonitrile-butadiene-styrene graft** copolymer  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. of and blend contg.)

IT 9003-54-7P, **Acrylonitrile-styrene** copolymer  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. of and polymer blend contg.)

IT 107194-70-7P, **Acrylonitrile-1,3-butadiene**-ethylene glycol dimethacrylate-**styrene graft** copolymer 252846-17-6P 252861-20-4P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. of rubber **grafted acrylate-acrylonitrile-styrene** copolymer and blend comprising same resin)

L16 ANSWER 7 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 2000:25995 CAPLUS

DN 132:50435

TI Preparation of rubber **grafted acrylate-acrylonitrile-styrene** copolymer and blend comprising same resin

IN Lin, Quanming; Xue, Dongbi

PA Qimei Industry Co. Ltd., Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 29 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

IC ICM C08L051-04

ICS C08L025-12

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37, 39

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1152005	A	19970618	CN 1995-120402	19951214
PRAI	CN 1995-120402		19951214		
AB	The blend comprises <b>graft</b> copolymer A 5-90, <b>graft</b> copolymer B 10-95, and an optional copolymer 0-80 parts. The <b>graft</b> copolymer A is prepd. by <b>bulk</b> polymn. and/or soln.				

polymer. grafting rubber grafted copolymer (0.05-0.8 .mu.m) 0.1-10, propylene-type copolymer 0.1-10, with **styrene**-type monomer 45-80, **acrylonitrile**-type monomer 15-50, and comonomer 0-40 parts (total monomer 100 parts). The **graft** copolymer B is prepd. by **emulsion** polymn. **grafting** **butadiene** rubber (0.05-0.8 .mu.m) 50-85 parts, and **styrene**-type monomer, **acrylonitrile**-type monomer and comonomer 15-50 parts. The copolymer is prepd. by polymg. **styrene**-type monomer 50-80, **acrylonitrile**-type monomer 20-50, and other comonomer 0-40 parts. The rubber **grafted** copolymer **emulsion** has **graft** ratio 10-40%, and the mol. wt. of the hard copolymer is 40,000-120,000. Thus, a polymer blend comprising a synthesized methacrylic acid-**acrylonitrile**-1,3-**butadiene**-Et acrylate-ethylene glycol dimethacrylate-Me methacrylate-**styrene** **graft** copolymer 50.0, a second **graft** copolymer 21.0, and a copolymer 29.0 parts had Izod impact strength 28.0 kg.cm/cm and adhesion strength (of electroplating) 2.8 kg/cm.

ST **butadiene styrene** acrylate **acrylonitrile** **graft** copolymer; blend rubber **graft styrene** copolymer compn

IT **Butadiene** rubber, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (graft polymers; prepn. of rubber **grafted** acrylate-**acrylonitrile-styrene** copolymer and blend comprising same resin)

IT Polymer blends  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (prepn. of rubber **grafted** acrylate-**acrylonitrile-styrene** copolymer and blend comprising same resin)

IT 9003-17-2P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (**butadiene** rubber, **graft** polymers; prepn. of rubber **grafted** acrylate-**acrylonitrile-styrene** copolymer and blend comprising same resin)

IT 107194-70-7P, **Acrylonitrile**-1,3-**butadiene**-ethylene glycol dimethacrylate-**styrene** **graft** copolymer  
 252846-17-6P 252861-20-4P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (prepn. of rubber **grafted** acrylate-**acrylonitrile-styrene** copolymer and blend comprising same resin)

IT 25212-88-8P, Ethyl acrylate-methacrylic acid copolymer 25213-88-1P, **Acrylonitrile-methyl methacrylate-styrene** copolymer 56466-61-6P, **Butadiene**-ethylene glycol dimethacrylate copolymer  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. of rubber **grafted** acrylate-**acrylonitrile-styrene** copolymer and blend comprising same resin)

L16 ANSWER 8 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 2000:25994 CAPLUS

DN 132:50434

TI Preparation of diene rubber **grafted styrene** resin and blend comprising same resin and polycarbonate

IN Su, Wenyi; Zhang, Jiemin

PA Qimei Industry Co. Ltd., Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 28 pp.  
 CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1152004	A	19970618	CN 1995-120405	19951214
	CN 1108342	B	20030514		
PRAI	CN 1995-120405		19951214		

AB The blend comprises a mixt. contg. **graft** copolymer A 5-90, **graft** copolymer B 10-95, with an optional copolymer 0-60 parts, and polycarbonate 40-200 parts (based on 100 parts of the **graft** copolymer mixt.). The **graft** copolymer A is prepd. by **bulk** polymn. and/or soln. polymn. **grafting** rubber **grafted** copolymer (0.05-0.8 .mu.m) 0.1-10, diene rubber 2-25, propylene-type copolymer 0.1-10, with **styrene**-type monomer 45-80, **acrylonitrile**-type monomer 15-50, and comonomer 0-40 parts. The **graft** copolymer B is prepd. by **emulsion** polymn. **grafting** rubber latex (0.05-0.8 .mu.m) 50-85 parts, with **styrene**-type monomer, **acrylonitrile**-type monomer and comonomer 15-50 parts. The copolymer is prepd. by polymg. **styrene**-type monomer 50-80, **acrylonitrile**-type monomer 20-50, and other comonomer 0-40 parts. The rubber **grafted** copolymer **emulsion** has **graft** ratio 10-40%, and the mol. wt. of the hard copolymer is 40,000-120,000. Thus, a blend comprising a synthesized acrylic acid-**acrylonitrile**-1,3-**butadiene**-Et acrylate-ethylene glycol dimethacrylate-Me methacrylate-**styrene** **graft** copolymer 20.0, a second **graft** copolymer 32.0, a **styrene** copolymer 48.0, and Iupilon S 2000F 100.0 parts had Izod impact strength 52.8 kg.cm/cm and softening pt. 132.3.degree..

ST **butadiene styrene** acrylate **acrylonitrile** **graft** copolymer; polycarbonate diene rubber **graft** copolymer blend

IT Polycarbonates, uses

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(Iupilon S 2000F; prepn. of diene rubber **grafted** **styrene** resin and blend comprising same resin and polycarbonate)

IT **Butadiene** rubber, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**graft** polymers; prepn. of diene rubber **grafted** **styrene** resin and blend comprising same resin and polycarbonate)

IT Polymer blends

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(prepn. of diene rubber **grafted** **styrene** resin and blend comprising same resin and polycarbonate)

IT 25085-35-2P, Acrylic acid-ethyl acrylate copolymer

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(Iupilon S 2000F; in prepn. of diene rubber **grafted** **styrene** resin involving synthesis and **grafting** of)

IT 9003-17-2P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**butadiene** rubber, **graft** polymers; prepn. of diene rubber **grafted** **styrene** resin and blend comprising same resin and polycarbonate)

IT 25213-88-1P, **Acrylonitrile-methyl methacrylate**

-**styrene** copolymer 56466-61-6P, **Butadiene**-ethylene glycol dimethacrylate copolymer

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT

(in prepn. of diene rubber **grafted styrene** resin involving synthesis and **grafting** of)

IT 160482-49-5P 252848-87-6P 252848-88-7P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (prepn. of diene rubber **grafted styrene** resin and blend comprising same resin and polycarbonate)

IT 24936-68-3, Iupilon S 2000F, uses 25037-45-0, Bisphenol A-carbonic acid copolymer  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (prepn. of diene rubber **grafted styrene** resin and blend comprising same resin and polycarbonate)

L16 ANSWER 9 OF 35 CAPLUS COPYRIGHT 2003 ACS  
 AN 2000:21989 CAPLUS  
 DN 132:50433  
 TI Preparation of diene-**styrene-acrylate-acrylonitrile graft** copolymer and **styrene** resin composition therefrom  
 IN Huang, Wenbin; Xue, Dongbi  
 PA Qimei Industry Co. Ltd., Peop. Rep. China  
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 26 pp.  
 CODEN: CNXXEV  
 DT Patent  
 LA Chinese  
 IC ICM C08L025-12  
 ICS C08L051-04  
 CC 35-8 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 37, 39

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1152002	A	19970618	CN 1995-120403	19951214
	CN 1056392	B	20000913		
PRAI	CN 1995-120403		19951214		

AB The **styrene** resin is composed of **graft** copolymer A 5-85, **graft** copolymer B 10-95, and an optional copolymer 0-80 parts. The **graft** copolymer A is prepd. by **bulk** polymn. and/or soln. polymn. **grafting** 0.05-0.8 .mu.m rubber **graft** copolymer **emulsion** 0.1-10, diene rubber 2-25, propylene copolymer 0.1-10, with **styrene**-type monomer 45-80, **acrylonitrile**-type monomer 15-50, and comonomer 0-40 parts (total monomer 100 parts). The **graft** copolymer B is prepd. by **emulsion** polymn. **grafting** 0.05-0.8 .mu.m rubber latex 50-85 parts with **styrene**-type monomer, **acrylonitrile**-type monomer and other comonomer 15-50 parts. The copolymer is prepd. by polymg. **styrene**-type monomer 50-80, **acrylonitrile**-type monomer 20-50, and other comonomer 0-40 parts. The rubber **graft** copolymer **emulsion** has **graft** ratio 10-40%, and the mol. wt. of the hard copolymer is 40,000-120,000. Thus, a **styrene** resin compn. comprising methacrylic acid-**acrylonitrile**-1,3-**butadiene**-Et acrylate-ethylene glycol dimethacrylate-**styrene graft** copolymer 34.8, a second **graft** copolymer 23.3, and copolymer 41.9 parts had Izod impact strength 29 kg.cm/cm and tensile strength 371 kg/cm<sup>2</sup>.

ST **butadiene styrene** acrylate **acrylonitrile graft** copolymer; **styrene** resin rubber **graft** blend compn

IT **Butadiene** rubber, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (**graft** polymers; prepn. of diene-**styrene-acrylate-acrylonitrile graft** copolymer and **styrene** resin compn. therefrom)

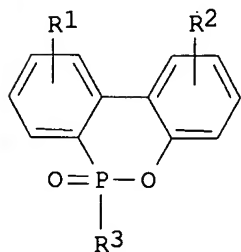
IT 9003-17-2P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (prepn. of diene-**styrene-acrylate-acrylonitrile**  
**graft** copolymer and **styrene** resin compn. therefrom)

IT 25212-88-8P, Ethyl acrylate-methacrylic acid copolymer 25213-88-1P,  
**Acrylonitrile-methyl methacrylate-styrene** copolymer 56466-61-6P, **Butadiene-ethylene**  
 glycol dimethacrylate copolymer  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (in prepn. of diene-**styrene-acrylate-acrylonitrile**  
**graft** copolymer involving synthesis and **grafting** of)

IT 107194-70-7P 107592-06-3P 252846-17-6P, Methacrylic acid-  
**acrylonitrile-1,3-butadiene-ethyl acrylate-ethylene**  
 glycol dimethacrylate-**styrene graft** copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (prepn. of diene-**styrene-acrylate-acrylonitrile**  
**graft** copolymer and **styrene** resin compn. therefrom)

L16 ANSWER 10 OF 35 CAPLUS COPYRIGHT 2003 ACS  
 AN 1999:531164 CAPLUS  
 DN 131:171061  
 TI Thermoplastic resin composition with good impact resistance and  
 moldability  
 IN Suzuki, Akinori; Miyajima, Hajime; Kato, Hitoshi; Mawatari, Masaaki  
 PA Technopolymer K. K., Japan  
 SO Jpn. Kokai Tokyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08L025-02  
 ICS C08K005-5313; C08L051-04; C08L051-06; C08L055-02  
 CC 37-6 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11228765	A2	19990824	JP 1998-50043	19980217
PRAI	JP 1998-50043		19980217		
OS	MARPAT 131:171061				
GI					



AB The compn. comprises 15-60% a **graft** copolymer of 35-85% a

monomer and a copolymer of an arom. vinyl compd., optionally a vinyl  
 monomer mixt. contg. 0.005-5 phr I (R1-2 = H, halogen, lower alkyl; R3 =  
 H, OH, low alkoxy, alkyl). Thus, a sample was made from 25% a  
**graft** copolymer (intrinsic viscosity 0.21 dL/g in MEK),  
 prepd. by **emulsion graft** polymn. of 60% 1,3-  
**butadiene** rubber with 30% **styrene** and 10%  
**acrylonitrile** (II) and 75% II-**styrene** copolymer  
 (intrinsic viscosity 0.55 dL/g) mixt. contg. 0.05 phr 9,10-dihydro-9-oxa-  
 10-phosphaphenanthrene-10-oxide.

ST impact resistance moldability **graft butadiene** rubber;  
**acrylonitrile styrene** copolymer blend **graft**  
 rubber

IT Acrylic rubber  
 Synthetic rubber, properties  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (**acrylonitrile-butadiene**-Me methacrylate-  
**styrene, graft**; thermoplastic resin compn. with good  
 impact resistance and moldability)

IT Synthetic rubber, properties  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (**acrylonitrile-butadiene**-methylstyrene-  
**styrene, graft**; thermoplastic resin compn. with good  
 impact resistance and moldability)

IT ABS rubber  
**Styrene-butadiene** rubber, properties  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (**graft**; thermoplastic resin compn. with good impact  
 resistance and moldability)

IT Impact-resistant materials  
 (thermoplastic resin compn. with good impact resistance and  
 moldability)

IT Polymer blends  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (thermoplastic resin compn. with good impact resistance and  
 moldability)

IT 106677-58-1  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (abs rubber, **graft**; thermoplastic resin compn. with good  
 impact resistance and moldability)

IT 106677-58-1, **Acrylonitrile-butadiene-styrene**  
**graft** copolymer 106818-11-5, **Acrylonitrile-**  
**butadiene-.alpha.-methylstyrene-styrene graft**  
 copolymer 106974-54-3, **Butadiene-styrene**  
**graft** copolymer 107592-06-3, **Acrylonitrile-**  
**butadiene-methyl methacrylate-styrene**  
**graft** copolymer  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (rubber; thermoplastic resin compn. with good impact resistance and  
 moldability)

IT 106974-54-3  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (**styrene-butadiene** rubber, **graft**;  
 thermoplastic resin compn. with good impact resistance and moldability)

IT 35948-25-5, 9,10-Dihydro-9-oxa-10-phosphaphenanthrene-10-oxide.  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (thermoplastic resin compn. with good impact resistance and  
 moldability)

IT 9003-53-6, Polystyrene 9003-54-7, **Acrylonitrile-**  
**styrene** copolymer 9010-96-2, **Acrylonitrile**

**Styrene-methyl methacrylate copolymer**  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(thermoplastic resin compn. with good impact resistance and moldability)

L16 ANSWER 11 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1999:463401 CAPLUS

DN 131:130658

TI ABS-PVC alloy compounds, pellets from them and flame-retardant casings made from them

IN Mishima, Ikuhiro; Doi, Sumito

PA Kanegafuchi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L055-02

ICS C08J003-12; C08K005-00; C08L027-06; C08L033-06

CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11199750	A2	19990727	JP 1998-14868	19980109
PRAI	JP 1998-14868		19980109		

AB The compds. with good injection moldability and giving molded products (e.g., office automation machines) with good resistance to heat, impact and flame, comprise (A) a 20-70:80-30 blend of pelletized ABS resins and powd. PVC resins, (B) alkyl (meth)acrylate resins 0.5-20, (C) stabilizers 3-12, and (D) lubricants 3-12 parts (per 100 parts PVC resins). The ABS resins are obtained from 40-85% the **bulk** polymn. products having reduced viscosity 0.20-0.55 dL/g of **acrylonitrile** compds. (I) 15-35, **styrene** compds. (II) 85-65 and other vinyl comonomers (III) 0-20%, and 60-15% the **graft** products of diene rubbers 40-85, I 15-35, II 85-65 and III 0-20% by **emulsion** polymn., and have rubber contents 10-40%. Thus, blending a pelletized **bulk** -polymn. product (reduced viscosity 0.46 dL/g) of 24 parts **acrylonitrile** and 76 parts **styrene** with a **graft** product of **butadiene** rubber 55, **acrylonitrile** 13.5 and **styrene** 31.5 part at rubber content 18%, and pelletizing gave pellets, 45 parts of which was compounded with a PVC (d.p. 490) 55, a 1/1 mixt. of Me methacrylate-**styrene** copolymer and Bu acrylate-**styrene** copolymer, 7, a mixed stabilizer 7 and a mixed lubricant 7 parts (per 100 parts PVC), pelletized, and injection molded to give test pieces with good moldability, and resistance to heat, impact and fire.

ST flame retardant ABS PVC blend injection molding; methacrylate **styrene** copolymer ABS PVC alloy molding; lubricant PVC ABS alloy molding compn; casing ABS alloy molding compn flame retardant; office machine housing ABS alloy molding; housing ABS alloy molding compn flame retardant

IT Antioxidants  
Heat stabilizers  
Heat-resistant materials  
Lubricants

(ABS-PVC alloy compds., pellets from them and flame-retardant casings made from them)

IT Molded plastics, properties  
Polymer blends

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(ABS-PVC alloy compds., pellets from them and flame-retardant casings made from them)

IT Soybean oil

RL: MOA (Modifier or additive use); USES (Uses)

(epoxidized, stabilizer compn.; ABS-PVC alloy compds., pellets from them and flame-retardant casings made from them)



RL: MOA (Modifier or additive use); USES (Uses)  
(lubricants; ABS-PVC alloy compds., pellets from them and  
flame-retardant casings made from them)

IT 9002-86-2P, PVC 9003-54-7P, **Acrylonitrile-styrene**  
copolymer 25034-86-0P, **Methyl methacrylate-**  
**styrene** copolymer 26428-43-3P, Butyl acrylate-glycidyl  
methacrylate-**styrene** copolymer 26634-89-9P, Butyl  
methacrylate-**methyl methacrylate-styrene**  
copolymer 29497-14-1P, Butyl acrylate-butyl methacrylate-**styrene**  
copolymer 106677-58-1P, **Acrylonitrile-butadiene-**  
**styrene graft** copolymer 114349-05-2P,  
**Acrylonitrile-butadiene-butyl acrylate-methyl**  
**methacrylate-styrene graft** copolymer  
119380-67-5P, **Acrylonitrile-butyl acrylate-.alpha.-methylstyrene-**  
**styrene** copolymer 230949-27-6P, **Acrylonitrile-butyl**  
**acrylate-butyl methacrylate-methyl methacrylate-**  
**styrene** copolymer 234075-11-7P, **Acrylonitrile-butyl**  
**acrylate-butyl methacrylate-methyl methacrylate**  
**-.alpha.-methylstyrene-styrene** copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(ABS-PVC alloy compds., pellets from them and flame-retardant casings  
made from them)

IT 110-30-5, Ethylenebis(stearamide) 115-83-3, Pentaerythritol  
tetrastearate 124-26-5, Stearamide 555-43-1, Glycerine tristearate  
2778-96-3, Stearyl stearate

RL: MOA (Modifier or additive use); USES (Uses)  
(lubricants; ABS-PVC alloy compds., pellets from them and  
flame-retardant casings made from them)

IT 78-06-8 85-60-9, 4,4'-Butylidenebis(6-tert-butyl-3-methylphenol)  
1592-23-0, Calcium stearate 2082-79-3, n-Octadecyl 3-(3,5-di-tert-butyl-  
4-hydroxyphenyl)propionate 7324-74-5 15546-12-0 16091-18-2,  
Diocetyl tin maleate 27676-62-6 53507-04-3, Dibutyl tin maleate polymer

RL: MOA (Modifier or additive use); USES (Uses)  
(stabilizer compn.; ABS-PVC alloy compds., pellets from them and  
flame-retardant casings made from them)

IT 57-11-4, Octadecanoic acid, uses 557-04-0, Magnesium stearate  
9002-88-4, Polyethylene 9002-88-4D, Polyethylene, oxidized

RL: MOA (Modifier or additive use); USES (Uses)  
(wax for lubricant; ABS-PVC alloy compds., pellets from them and  
flame-retardant casings made from them)

L16 ANSWER 12 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1998:724300 CAPLUS

DN 129:317075

TI Rubber-modified heat- and impact-resistant **styrene** polymer  
compositions

IN Huang, Shao Chiu

PA Chi Mei Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L025-08

ICS C08L033-20; C08L035-00; C08L051-04

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 39

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10298375	A2	19981110	JP 1997-110870	19970428
PRAI	JP 1997-110870		19970428		

AB Title compns., with content of dimers and trimers of **acrylonitrile**  
<20,000 ppm, consist of (A) imide-contg. **styrene** polymer  
continuous phases comprising **styrene, acrylonitrile,**

particle dispersants contg. (a) **emulsion**-polymd. particles with wt.-av. particle size (x) 0.05-0.8 .mu.m and av. thickness of **grafted styrene** polymers (y) 30-160 .ANG. and (b) **bulk-** or soln.-polymd. particles with x 0.1-10 .mu.m and y 90-350 .ANG. at area ratio a/b (98-70)/(2-30). Thus, **acrylonitrile-N-phenylmaleimide-styrene** copolymer 64.6, **emulsion**-polymd. **acrylonitrile-1,3-butadiene-styrene** graft copolymer rubber 25.4, and **bulk**-polymd. **acrylonitrile-butadiene-styrene** graft copolymer rubber 10% were melt kneaded, pelletized, and injection molded to give a test piece showing good heat and impact resistance.

ST rubber modified **styrene** polymer heat resistance; impact resistance rubber modified **styrene** polymer; imide **styrene** polymer heat resistance

IT Synthetic rubber, preparation  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)  
 (**acrylonitrile-1,3-butadiene**-Me methacrylate-**styrene**, **graft**; rubber-modified heat- and impact-resistant **styrene** polymer compns.)

IT Polymerization  
 (**bulk**; rubber-modified heat- and impact-resistant **styrene** polymer compns.)

IT Polymerization  
 (**emulsion**; rubber-modified heat- and impact-resistant **styrene** polymer compns.)

IT Polymerization  
 (**graft**; rubber-modified heat- and impact-resistant **styrene** polymer compns.)

IT ABS rubber  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)  
 (**graft**; rubber-modified heat- and impact-resistant **styrene** polymer compns.)

IT Heat-resistant materials  
 Impact-resistant materials  
 (rubber-modified heat- and impact-resistant **styrene** polymer compns.)

IT Polymerization  
 (soln.; rubber-modified heat- and impact-resistant **styrene** polymer compns.)

IT 106677-58-1P  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)  
 (abs rubber, **graft**; rubber-modified heat- and impact-resistant **styrene** polymer compns.)

IT 31621-07-5P, **Acrylonitrile-N-phenylmaleimide-styrene** copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)  
 (rubber-modified heat- and impact-resistant **styrene** polymer compns.)

IT 107592-06-3P, **Acrylonitrile-1,3-butadiene-methyl methacrylate-styrene** graft copolymer  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)  
 (rubber; rubber-modified heat- and impact-resistant **styrene** polymer compns.)

L16 ANSWER 13 OF 35 CAPLUS COPYRIGHT 2003 ACS  
 AN 1998:618486 CAPLUS  
 DN 129:303231  
 TI Rubber-modified **styrene** resin compositions for tough and thermal-stable moldings with uniform gloss  
 IN Lin, Tsuan Ming; Hsieh, Tung Pi; Huang, Wen Pin

SO Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08L051-04  
 ICS C08L025-12  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 39

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10251478	A2	19980922	JP 1997-54761	19970310
	JP 3286550	B2	20020527		
PRAI	JP 1997-54761		19970310		

AB Title compns., comprise 5-45% rubber components and 55-95% **styrene** (I) polymer components and are characterized by contg. **emulsion** -type **grafted** rubber particles (EG) having wt.-av. diam. (Da) of 0.05-0.8 .mu.m and surface I polymers with an av. thickness (Ta) of 30-160 .ANG. and **bulk** (or soln.)-type **grafted** rubber particles (BG) having Da of 0.1-10 .mu.m and surface I polymers with Ta of 90-350 .ANG.. Mixing **acrylonitrile** (II)-I copolymer 70, 0.3-.mu.m EG (with Ta 50.ANG.; prepd. by **graft** polymn. of I and II with Et acrylate- and methacrylic acid-enlarged nitrile rubber latex) 20, and 0.95-.mu.m BG (with Ta 200.ANG.; prepd. by **graft** polymn. of I and II with Asadene 55A latex) 10%, adding with additives, and extruding to form pellets contg. 16% rubber, which was injection molded to form a test piece with Izod impact strength 25 kg-cm/cm, gloss deviation (ASTM D 523) 0.3, and initial oxidn. temp. 235.degree..

ST rubber modified **styrene acrylonitrile** polymer  
 toughness; uniformity gloss **styrene acrylonitrile**  
**graft** polymer; thermal stability **styrene**  
**acrylonitrile graft** polymer

IT Polymerization  
 (**graft**; rubber-modified **styrene** and  
**acrylonitrile** polymer compns. for tough and heat-stable molding  
 with uniform gloss)

IT Polymers, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (**graft**; rubber-modified **styrene** and  
**acrylonitrile** polymer compns. for tough and heat-stable molding  
 with uniform gloss)

IT Heat-resistant materials  
 Impact-resistant materials  
 (rubber-modified **styrene** and **acrylonitrile** polymer  
 compns. for tough and heat-stable molding with uniform gloss)

IT Polymer blends  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (rubber-modified **styrene** and **acrylonitrile** polymer  
 compns. for tough and heat-stable molding with uniform gloss)

IT 106677-58-1P, **Acrylonitrile-1,3-butadiene-**  
**styrene graft** copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (**bulk** or soln. particles; rubber-modified **styrene**  
 and **acrylonitrile** polymer compns. for tough and heat-stable  
 molding with uniform gloss)

IT 147764-40-7P 195625-18-4P, **Acrylonitrile-1,3-butadiene**  
**-ethyl acrylate-methacrylic acid-styrene graft**  
 copolymer 214493-62-6P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)

acrylonitrile polymer compns. for tough and heat-stable molding  
with uniform gloss)

IT 9003-54-7P, **Acrylonitrile-styrene** copolymer  
9010-96-2P, **Acrylonitrile-.alpha.-methylstyrene-styrene**  
copolymer 25213-88-1P, **Acrylonitrile-methyl**  
**methacrylate-styrene** copolymer 31621-07-5P,  
**Acrylonitrile-N-phenylmaleimide-styrene** copolymer  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
(Technical or engineered material use); PREP (Preparation); USES (Uses)  
(rubber-modified **styrene** and **acrylonitrile** polymer  
compns. for tough and heat-stable molding with uniform gloss)

L16 ANSWER 14 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1998:564213 CAPLUS

DN 129:190074

TI Impact-resistant styrenic resin composition

IN Lin, Chuan-ming; Shiueh, Dong-bi

PA Chi Mei Corp., Taiwan

SO U.S., 10 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08L055-02

ICS C08L051-04

NCL 525071000

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5795936	A	19980818	US 1996-690452	19960627
PRAI	US 1996-690452		19960627		

AB A styrenic resin compn. includes: (1) 5-90% of a **graft** copolymer  
(C) prepd. by **bulk** or soln. polymn. of 100 parts of monomers  
including 80-45 parts of vinyl arom. monomers, 15-50 parts of vinyl  
cyanide monomers, and 0-40 parts of copolymerizable monomers, in the  
presence of 0.1-10 parts of a rubber **graft** copolymer (A) having  
a wt. av. particle size of 0.05-0.8 .mu.m and 0.1-10 parts of an acrylic  
copolymer (B); (2) 95-10% of a **graft** copolymer (D) prepd. by  
**emulsion** polymn. of 50-15 parts of a mixt. of 45-80 parts of vinyl  
arom. monomers, 15-50 parts of vinyl cyanide monomers and, optionally,  
0-40 parts of copolymerizable monomers, in the presence of 50-85 parts of  
a **butadiene** rubber having a wt. av. particle size of 0.05-0.8  
.mu.m; and (3) 0-80% of a copolymer (E) prepd. by polymn. of 80-50 parts  
of vinyl arom. monomers, 20-50 parts of vinyl cyanide monomers and,  
optionally, 0-40 parts of copolymerizable monomers.

ST impact resistant styrenic resin compn

IT Impact-resistant materials

(impact-resistant styrenic resin compn.)

IT Polymer blends

RL: PRP (Properties)

(impact-resistant styrenic resin compn.)

IT 211757-70-9P

RL: IMF (Industrial manufacture); PREP (Preparation)

(impact-resistant styrenic resin compn.)

IT 31621-07-5P, **Styrene-acrylonitrile-N-phenylmaleimide**

Copolymer 107592-06-3P, **Acrylonitrile-1,3-butadiene-**

**methyl methacrylate-styrene graft**

copolymer 108771-85-3P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP  
(Preparation); USES (Uses)

(impact-resistant styrenic resin compn.)

IT 9003-54-7P, **Styrene-acrylonitrile** copolymer

25213-88-1P, **Acrylonitrile-methyl methacrylate**

-**styrene** copolymer 106677-58-1P, **Acrylonitrile-1,3-**

**butadiene-styrene graft** copolymer

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT

(impact-resistant styrenic resin compn.)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; JP 43-7551 1968 CAPLUS
- (2) Anon; DE 1921112 1969 CAPLUS
- (3) Anon; JP 184244 1984
- (4) Hiromoto; US 5610235 1997 CAPLUS
- (5) Leitz; US 5605963 1997 CAPLUS
- (6) Shields; US 5270387 1993 CAPLUS

L16 ANSWER 15 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1998:65933 CAPLUS

DN 128:115390

TI Polymerization with living characteristics with controlled dispersity, polymers prepared thereby, and chain-transfer agents used in the same

IN Le, Tam Phuong; Moad, Graeme; Rizzardo, Ezio; Thang, San Hoa

PA E.I. Du Pont De Nemours and Co., USA; Le, Tam Phuong; Moad, Graeme; Rizzardo, Ezio; Thang, San Hoa

SO PCT Int. Appl., 88 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08F002-38

ICS C07C327-36

CC 35-4 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9801478	A1	19980115	WO 1997-US12540	19970703
	W: AU, BR, CA, CN, IL, JP, KR, MX, NZ, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2259559	AA	19980115	CA 1997-2259559	19970703
	AU 9736033	A1	19980202	AU 1997-36033	19970703
	AU 728717	B2	20010118		
	EP 910587	A1	19990428	EP 1997-932627	19970703
	EP 910587	B1	20011212		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9710219	A	19990810	BR 1997-10219	19970703
	CN 1228787	A	19990915	CN 1997-197601	19970703
	NZ 333277	A	20000929	NZ 1997-333277	19970703
	JP 2000515181	T2	20001114	JP 1998-505398	19970703
	AT 210684	E	20011215	AT 1997-932627	19970703
	ES 2166092	T3	20020401	ES 1997-932627	19970703
	TW 384292	B	20000311	TW 1997-86109745	19970801
	KR 2000023688	A	20000425	KR 1999-700145	19990109
PRAI	AU 1996-933	A	19960710		
	AU 1996-1109	A	19960718		
	WO 1997-US12540	W	19970703		

AB This invention concerns a free radical polymn. process, selected chain transfer agents employed in the process and polymers made thereby, in which the process comprises prepolymerization of (ZCS<sub>2</sub>Qq)pR (I) or Z'(CS<sub>2</sub>QqR)<sub>m</sub> (II), comprising contacting: (i) a monomer having repeating units Q, selected from vinyl monomers of structure CH<sub>2</sub>:CUV, maleic anhydride, N-alkylmaleimide, N-arylmaleimide, dialkyl fumarate and cyclopolymerizable monomers; (ii) a thiocarbonylthio compound selected from (ZCS<sub>2</sub>)pR (III) and Z'(CS<sub>2</sub>R)<sub>m</sub> (IV) having a chain transfer constant  $\geq 0.1$ ; and (iii) free radicals produced from a free radical source; and controlling the polydispersity of the polymer being formed by varying the ratio of the no. of mols of (ii) to the no. of mols of (iii); I being made by contacting (i), (ii), III and (iii) and II by contacting (i), (ii), IV, and (iii). Z = H, Cl, (un)substituted alkyl, aryl, heterocyclyl, alkylthio, alkoxycarbonyl, CO<sub>2</sub>R, CO<sub>2</sub>H, O<sub>2</sub>CR, CONR<sub>2</sub>, cyano, P(O)OR<sub>2</sub>, P(O)R<sub>2</sub>, polymer chain formed by any mechanism; Z' = m-valent moiety derived from a member of the group consisting of (un)substituted alkyl, aryl, or polymer chain, where the connecting moieties are selected from aliph. or arom.

maleic anhydride, N-alkylmaleimide, N-arylmaleimide, dialkyl fumarate, and cyclopolymerizable monomers; U = H, halogen, (un)substituted C1-4 alkyl, with substituents selected from OH, alkoxy, OR", carboxy, acyloxy, O2CR", CO2R"; V = R", CO2H, CO2R", COR", CN, CONH2, CONHR", CONR"2, O2CR", OR", halogen. R = (un)substituted alkyl, (un)satd. alkylthio, alkoxy, dialkylamino, organometallic, polymer chain; in III and IV, R.cntdot. = a free radical leaving group that initiates free radical polymn.; R" = (un)substituted C1-18 alkyl, C2-18 alkenyl, aryl, heterocyclyl, aralkyl, alkaryl; p, q .gtoreq.1; m .gtoreq.2; R' = p-valent moiety selected from (un)substituted alkyl, aryl, polymer chain. Polymg. 4 mL of a stock soln. from 15 mL Me methacrylate, 20 mg AIBN, and 60.7 mg 2-phenyl-2-Pr dithiobenzoate in 5 mL benzene, in a degassed and sealed ampule at 60.degree. for 2 (16) h gave Mn 9800 (56,200), Mw/Mn 1.27 (1.12), and % conversion 13.5 (95.0)%.

- ST dithiocarboxylate chain transfer agent; methacrylate polymn chain transfer agent
- IT Polymerization  
(block; polymn. with living characteristics with controlled dispersity, polymers prepd. thereby, and chain-transfer agents used in the same)
- IT Polymerization  
(bulk; polymn. with living characteristics with controlled dispersity, polymers prepd. thereby, and chain-transfer agents used in the same)
- IT Polymerization  
(emulsion; polymn. with living characteristics with controlled dispersity, polymers prepd. thereby, and chain-transfer agents used in the same)
- IT Polymerization  
(living; polymn. with living characteristics with controlled dispersity, polymers prepd. thereby, and chain-transfer agents used in the same)
- IT Chain transfer agents  
(polymn. with living characteristics with controlled dispersity, polymers prepd. thereby, and chain-transfer agents used in the same)
- IT Polymerization  
(soln.; polymn. with living characteristics with controlled dispersity, polymers prepd. thereby, and chain-transfer agents used in the same)
- IT Polymerization  
(suspension; polymn. with living characteristics with controlled dispersity, polymers prepd. thereby, and chain-transfer agents used in the same)
- IT Polymerization  
(thermal; polymn. with living characteristics with controlled dispersity, polymers prepd. thereby, and chain-transfer agents used in the same)
- IT 9003-01-4P 9003-21-8P, Poly(methyl acrylate) 9003-49-0P, Poly(butyl acrylate) 9003-53-6P, Polystyrene 9003-54-7P, Acrylonitrile-styrene copolymer 9003-55-8P, Butadiene-styrene copolymer 9011-14-7P, PMMA 24991-31-9P, Poly(vinyl butyrate) 24991-32-0P, Poly(vinyl benzoate 25034-86-0P, Methyl methacrylate-styrene copolymer 25086-15-1P, Methacrylic acid-methyl methacrylate copolymer 26793-34-0P, Poly(N,N-dimethylacrylamide) 28038-50-8P, Poly(p-styrenesulfonic acid sodium salt) 29760-26-7P, N,N-Dimethylacrylamide-styrene block copolymer 69215-54-9P, Hydroxyethyl methacrylate-isobutyl methacrylate-methyl methacrylate-styrene copolymer 106911-77-7P, Methyl methacrylate-styrene block copolymer 107311-90-0P, Ethylene oxide-styrene block copolymer 107391-68-4P, Butyl methacrylate-styrene block copolymer 107741-20-8P, Methyl methacrylate-styrene graft copolymer 110772-34-4P, Butyl acrylate-styrene block copolymer 119182-44-4P, 2-Hydroxyethyl methacrylate-methyl methacrylate block copolymer 121523-76-0P, 4-Methylstyrene-styrene block copolymer 121917-48-4P, Acrylic acid-butyl acrylate block copolymer 201611-95-2P, Ethyl acrylate-methyl acrylate

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
(polymn. with living characteristics with controlled dispersity,  
polymers prepd. thereby, and chain-transfer agents used in the same)  
IT 3682-49-3P, 1-Naphthalenecarbodithioic acid 5925-55-3P, tert-Butyl  
dithiobenzoate 13291-44-6P, S-tert-Butyl thiobenzoate 32894-08-9P,  
Benzyl dithioacetate 37912-25-7P 114393-77-0P 201611-77-0P  
201611-80-5P 201611-81-6P 201611-83-8P 201611-85-0P 201611-86-1P  
201611-87-2P 201611-88-3P 201611-89-4P 201611-90-7P 201611-91-8P  
201611-92-9P 201611-93-0P 201611-94-1P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)

(polymn. with living characteristics with controlled dispersity,  
polymers prepd. thereby, and chain-transfer agents used in the same)  
IT 75-15-0, Carbon disulfide, reactions 75-66-1, tert-Butyl mercaptan  
86-52-2, 1-(Chloromethyl)naphthalene 98-83-9, reactions 98-88-4,  
Benzoyl chloride 100-39-0, Benzyl bromide 100-42-5, reactions  
100-58-3, Phenylmagnesium bromide 105-36-2, Ethyl bromoacetate  
108-05-4, Acetic acid ethenyl ester, reactions 108-86-1, Bromobenzene,  
reactions 121-68-6, Dithiobenzoic acid 540-84-1, 2,4,4-  
Trimethylpentane 600-00-0, Ethyl .alpha.-bromoisobutyrate 623-24-5,  
.alpha.,.alpha.'-Dibromo-p-xylene 637-69-4 676-58-4, Methylmagnesium  
chloride 942-91-6, Carboxymethyl dithiobenzoate 1592-20-7,  
4-(Chloromethyl)**styrene** 1605-18-1, 1,4-Diisopropenylbenzene  
1712-70-5, 4-Chloro-.alpha.-methylstyrene 2168-82-3,  
4-Chlorodithiobenzoic acid 3095-73-6, Hexakis(bromomethyl)benzene  
7704-34-9, Sulfur, reactions 9004-74-4 15442-91-8,  
1,2,4,5-Tetrakis(bromomethyl)benzene 26504-29-0, Dibenzyl  
trithiocarbonate 27249-90-7, Benzyl dithiobenzoate 39833-65-3,  
3-(Chloromethyl)**styrene** 41658-69-9, 2-Bromo-2-cyanopropane  
49672-29-9, 1,4-Benzenedicarbodithioic acid 59937-89-2 119529-40-7,  
Dibenzyl tetrathioterephthalate 178878-93-8 201611-78-1 201611-79-2  
201611-82-7 201611-84-9  
RL: RCT (Reactant); RACT (Reactant or reagent)

(polymn. with living characteristics with controlled dispersity,  
polymers prepd. thereby, and chain-transfer agents used in the same)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Commonwealth Scientific And Ind Res Org; WO 9213903 A 1992 CAPLUS
- (2) Delfanne, I; MACROMOLECULES 1989, V22, P2589 CAPLUS
- (3) Fryling, C; US 2396997 A 1946 CAPLUS
- (4) Kuraray Co Ltd; EP 0348166 A 1989 CAPLUS
- (5) Moebius, M; PLASTE UND KAUTSCHUK 1992, V39(4), P122 CAPLUS
- (6) Sanyo Chem Ind Ltd; JP 03265613 A 1991 CAPLUS

L16 ANSWER 16 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1997:754377 CAPLUS

DN 128:4348

TI Rubber latexes, rubber-modified vinyl polymers, and thermoplastic resin  
compositions containing them

IN Akatsuka, Hiroshi; Suzuki, Masanori; Kawahashi, Nobuo; Iwai, Kazuki

PA Japan Synthetic Rubber Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08F002-24

ICS C08F020-10; C08F036-04

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 39

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09302007	A2	19971125	JP 1996-137737	19960509
PRAI	JP 1996-137737		19960509		

AB The latexes with gel fraction and Mooney viscosity (ML1+4, 100.degree.) of  
the rubbers 20-100% and 10-300, resp., are obtained by **emulsion**

...ltoreq.10.degree.) in the presence of 0.01-10 parts emulsifiers consisting of carboxylate salt-based reactive emulsifiers and other emulsifiers at (1-100)/(99-0). The rubber-modified polymers with **grafting** ratio 5-200% are obtained by **emulsion** polymn. of 20-97 parts vinyl monomers in the presence of 3-80 parts (as solid; total 100 parts with the monomers) the latexes and 0.01-10 parts the emulsifiers and are blended with other thermoplastic resins at (1-99)/(99-1) to give the compns. showing good impact resistance, thermal stability, appearance of molded products, etc. The compns. contg. 1-30 phr fireproofing agents, 0.01-10 phr bactericides and/or fungicides, 0.1-30 phr antistatic agents, and/or 0.1-20 phr blowing agents are also claimed. Thus, 100 parts 1,3-**butadiene** was polymd. with 2.4 parts  $H_2C:CMcONCH(CH_2R)(CH_2)nCO_2M$  (sic, I; R = C6-18 alkyl, alkenyl, aralkyl; n = 0-30; M = K, Na) and K phosphate, KOH, tert-dodecyl mercaptan, and K<sub>2</sub>S<sub>2</sub>O<sub>8</sub> in H<sub>2</sub>O to give a 60.4% rubber latex showing av. particle size 270 nm, mech. stability (time to solidify at 70.degree. and 6000 rpm) 49 min, gel fraction 78%, and Mooney viscosity 125. Polymg. 12 parts **styrene** and 5 parts **acrylonitrile** with 50 parts (as solid) the latex and 0.3 part I and further polymg. 23 parts **styrene**, 10 parts **acrylonitrile**, and 0.6 part I gave a **graft** polymer showing **grafting** ratio 72%, intrinsic viscosity 0.33 (MEK, 30.degree.), and good coagulation property.

ST **butadiene** rubber latex manuf reactive emulsifier; **graft** ABS manuf reactive emulsifier; impact resistance **graft** polymer manuf; thermal stability **graft** polymer manuf

IT Antibacterial agents  
Antistatic agents  
Blowing agents  
Fireproofing agents  
(for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT Polymers, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)  
(**graft**; manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT Impact-resistant materials  
(manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT Polymer blends  
RL: PRP (Properties)  
(manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT Emulsifying agents  
(reactive, carboxylate salts; manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT Carboxylic acids, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(salts, reactive emulsifiers; manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT 111-42-2D, Diethanolamine, alkyl derivs.  
RL: MOA (Modifier or additive use); USES (Uses)  
(antistatic agent; manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT 7761-88-8, Silver nitrate, uses  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)



with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT 123-77-3, Azodicarbonamide  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (blowing agent; manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT 79-94-7, Tetrabromobisphenol A 1309-64-4, Antimony trioxide, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (fireproofing agent; manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT 80-62-6DP, **Methyl methacrylate, graft** polymers with **styrene, acrylonitrile**, methylstyrene, **butadiene** rubber, and carboxylate salts 98-83-9DP, .alpha.-Methylstyrene, **graft** polymers with **styrene, acrylonitrile**, Me methacrylate, **butadiene** rubber, and carboxylate salts 107-13-1DP, **Acrylonitrile, graft** polymers with **styrene, butadiene** rubber, and carboxylate salts  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)  
 (manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT 9003-54-7, **Acrylonitrile-styrene** copolymer  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

IT 79-06-1DP, Acrylamide, carboxylic acid derivs., polymers with **butadiene** 79-10-7DP, 2-Propenoic acid, derivs., potassium salts, polymers with **butadiene**, preparation 79-39-0DP, Methacrylamide, carboxylic acid derivs., polymers with **butadiene** 96-05-9DP, Allyl methacrylate, polymers with Bu acrylate and carboxylate salts 100-42-5DP, **Styrene**, polymers with **butadiene** and carboxylate salts 106-99-0DP, 1,3-**Butadiene**, polymers with carboxylate salts, preparation 141-32-2DP, Butyl acrylate, polymers with allyl methacrylate and carboxylate salts 23350-58-5DP, 2-Butenamide, carboxylic acid derivs., polymers with **butadiene**  
 RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (rubber; manuf. of rubber latexes and **graft** polymers with reactive emulsifiers for thermoplastic resin compns. with good impact resistance, thermal stability, and appearance)

L16 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2003 ACS  
 AN 1996:531579 CAPLUS  
 DN 125:169614  
 TI Manufacture of highly tough **styrene** resin compositions  
 IN Kishimoto, Akihiko; Goto, Eizo; Kadoi, Akira; Nakagawa, Keiji  
 PA Toray Industries, Japan  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 IC ICM C08L051-04  
 ICS C08F279-02; C08L055-02  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 39

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08143741	A2	19960604	JP 1994-287658	19941122
PRAI	JP 1994-287658		19941122		

AB Title compns. are prepd. by continuously mixing 1-99 parts molten

rubbers 1-25, arom. vinyl compds. (AV) 40-99, cyano vinyl compds. (CV) 0-60, and (meth)acrylate esters (MA) 0-80% with 1-99 parts **graft** polymers (B; prepd. by **emulsion/graft** polymg. 20-95 parts monomer blends of AV 10-100, CV 0-50, and MA 0-80, and other vinyl compds. 0-60% in the presence of 5-80 parts rubbers, de-watering, and drying) with rubber content in B. g. req. that in A. Melt kneading 10:60:30 **acrylonitrile** (I)-**butadiene** (II)-**styrene** (III) **graft** copolymer 20, stabilizers 1, and 22.0:4.7:72.4 I-II-III **graft** copolymer 80 parts and injection molding gave a product with yellow index 22 and Izod impact strength 25 kg-cm/cm.

ST low yellowing ABS **graft** polymer blend; toughness rubber modified **styrene** resin blend; melt blending **graft styrene** resin

IT Impact-resistant materials  
(high rubber **styrene graft** resin and low rubber **styrene graft** resin blends for tough moldings with low yellowness)

IT Polymerization  
(**graft**, high rubber **styrene graft** resin and low rubber **styrene graft** resin blends for tough moldings with low yellowness)

IT 106464-96-4P 106677-58-1P, ABS **graft** copolymer 107592-06-3P, **Acrylonitrile-butadiene-methyl methacrylate-styrene graft** copolymer 110186-79-3P, **Acrylonitrile-butadiene-N-phenylmaleimide-styrene graft** copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)  
(high rubber **styrene graft** resin and low rubber **styrene graft** resin blends for tough moldings with low yellowness)

L16 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2003 ACS  
AN 1996:513423 CAPLUS  
DN 125:116397  
TI Manufacture of impact-resistant polymer compositions  
IN Kishimoto, Akihiko; Goto, Eizo; Kadoi, Akira; Nakagawa, Keiji  
PA Toray Industries, Inc., Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
IC ICM C08L051-04  
ICS C08F002-02; C08F002-22; C08F006-10; C08L055-02  
CC 37-6 (Plastics Manufacture and Processing)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08151499	A2	19960611	JP 1994-294085	19941129
PRAI	JP 1994-294085		19941129		

AB The compns. with good color tone and rigidity are manufd. by adding successively 1-99 parts dehydrated and dried **graft** copolymers to 1-99 parts rubber-contg. copolymers in a molten state, where the rubber-contg. copolymers are manufd. by continuous **bulk** polymn. of arom. vinyl compds. 40-99, vinyl cyanides 0-60, (meth)acrylate esters 0-80, and other vinyl comonomers 0-60% onto 1-25% rubbers, the **graft** copolymers are manufd. by **emulsion** polymn. of 20-95 parts monomers comprising arom. vinyl compds. 10-100, vinyl cyanides 0-50, (meth)acrylate esters 0-80, and other vinyl comonomers 0-60% in the presence of 5-80 parts rubbers and supplying slurries or H2O-contg. cakes obtained from the resulting latexes to an extruder, and rubber content from the **graft** copolymers is greater than that from the rubber-contg. copolymers. Thus, 22.8 parts **styrene** (I) and 7.2 parts **acrylonitrile** (II) were polymd. in an aq. soln. of 70 parts (solid) **polybutadiene** rubber to give a latex, 5 parts

with 47.2 parts I and 22.8 parts II, and polymd. to give a polymer. Then 80 parts the polymer was blended with stabilizers and 20 parts a dehydrated **graft** polymer cake (**polybutadiene** 60, I 30, and II 10%), melt kneaded, pelletized, and injection molded to give a test piece showing Izod impact strength 25 kg-cm/cm, tensile strength 400 kg/cm<sup>2</sup>, and good yellowing resistance.

ST **graft** ABS blend impact resistance; yellowing resistance  
**graft** ABS blend

IT Impact-resistant materials  
(manuf. of rubber-contg. polymer compns. with good impact resistance and yellowing resistance)

IT Discoloration prevention  
(yellowing, manuf. of rubber-contg. polymer compns. with good impact resistance and yellowing resistance)

IT 106677-58-1P, **Acrylonitrile-butadiene-styrene**

**graft** copolymer 106974-54-3P, **Butadiene-**

**styrene graft** copolymer 107592-06-3P,

**Acrylonitrile-butadiene-methyl**

**methacrylate-styrene graft** copolymer

110186-79-3P, **Acrylonitrile-butadiene**

-N-phenylmaleimide-**styrene graft** copolymer

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)

(manuf. of rubber-contg. polymer compns. with good impact and yellowing resistance)

IT 106464-96-4P, **Acrylonitrile-ethylene-5-ethylidene-2-norbornene-propylene-styrene graft** copolymer

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)

(manuf. of rubber-contg. polymer compns. with good impact resistance and yellowing resistance)

L16 ANSWER 19 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1995:446578 CAPLUS

DN 122:189225

TI Thermoplastic resin compositions with good impact and chemical resistance and moldability

IN Ishiga, Shigeto; Kashiwagi, Hiroki; Kamoshita, Tatsuji; Watanabe, Takeshi; Kanayama, Juichi

PA Monsanto Kasei Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L055-02

ICS C08L025-12; C08L051-00

CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06248158	A2	19940906	JP 1993-39904	19930301
	JP 3373881	B2	20030204		
PRAI	JP 1993-39904		19930301		

AB The title compns. comprise diene rubber-based **graft** copolymers (blends of **emulsion**-polymd. polymer and polymer by **bulk** -suspension two-step polymn.), acrylic rubber-based **graft** copolymers, and **acrylonitrile-styrene** copolymers at certain wt. ratio range. An injection-moldable compn. comprised SBR-based ABS 21.3, product from **bulk** polymn. of **styrene**, **acrylonitrile**, and **polybutadiene** then suspension polymn. of acrylic acid and 2-ethylhexyl acrylate 17.2, **acrylonitrile-Bu** acrylate-allyl methacrylate-**styrene graft** copolymer 21.3, and **acrylonitrile-styrene** copolymer 39.3 parts.

ST thermoplastic resin blend moldability; impact chem resistant thermoplastic blend

IT Plastics

(Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (thermoplastic resin compns. with good impact and chem. resistance and moldability)

IT Impact-resistant materials  
 (chem. resistant, thermoplastic resin compns. with good impact and chem. resistance and moldability)

IT Chemically resistant materials  
 (impact-resistant, thermoplastic resin compns. with good impact and chem. resistance and moldability)

IT 9003-54-7P, **Acrylonitrile-styrene** copolymer  
 25767-47-9P, Butyl acrylate-**styrene** copolymer 31075-29-3P,  
**Acrylonitrile**-allyl methacrylate-butyl acrylate copolymer  
 61488-62-8P, Allyl methacrylate-butyl acrylate copolymer 118037-25-5P,  
**Acrylonitrile**-allyl methacrylate-butyl acrylate-**methyl methacrylate-styrene graft** copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (rubber; thermoplastic resin compns. with good impact and chem. resistance and moldability)

IT 110254-01-8P 118687-58-4P, **Acrylonitrile**-allyl methacrylate-butyl acrylate-**styrene graft** copolymer  
 126913-66-4P, **Acrylonitrile**-butyl methacrylate-**methyl methacrylate-styrene graft** copolymer  
 161824-05-1P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (thermoplastic resin compns. with good impact and chem. resistance and moldability)

IT 106677-58-1, **Acrylonitrile-butadiene-styrene graft** copolymer  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (thermoplastic resin compns. with good impact and chem. resistance and moldability)

L16 ANSWER 20 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1993:518605 CAPLUS

DN 119:118605

TI Thermoplastic resin compositions with heat and impact and **solvent** resistance

IN Tokuda, Takashi; Sakai, Hidetoshi; Chiba, Kazumasa

PA Toray Industries, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L023-02

ICS C08L023-02; C08L025-08; C08L051-04; C08L055-02; C08L077-00

ICI C08L055-02, C08L023-02, C08L025-08, C08L077-00

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05070638	A2	19930323	JP 1991-235197	19910913
	JP 3158525	B2	20010423		
PRAI	JP 1991-235197		19910913		

AB The title compns. contain (A) 100 parts mixts. comprising 15-95% polyolefins and 5-85% copolymers prepd. by **grafting** 5-80 parts rubbers with 20-95 parts monomer mixts. comprising 20-90% arom. vinyl compds., 10-80% cyano-contg. vinyl compds. and/or unsatd. carboxylic acid alkyl esters, and 0-40% copolymerizable vinyl monomers, (B) 3-70 parts modified vinyl copolymers prepd. from arom. vinyl compds., cyano-contg.

parts polyamides. Thus, 30 parts **graft** copolymer prepd. by emulsion polymn. of 60 part-solids **polybutadiene** rubber latex and 40 parts mixt. of 70% **styrene** and 30% **acrylonitrile**, 70 parts polypropylene, 10 parts 25:5:70 **acrylonitrile**-methacrylic acid-**styrene** copolymer, and 8 parts CM1017 (nylon 6) were melt kneaded, pelletized, and injection molded to give test pieces showing Izod impact strength 200 J/m, flexural modulus 1550 MPa, and no change in MeOH and gasoline after 24 h at 23.degree..

ST thermoplastic resin blend impact strength; **solvent** resistance.  
thermoplastic resin blend; rubber **graft** copolymer thermoplastic resin; polyolefin polyamide blend molding thermoplastic

IT Polyamides, miscellaneous  
RL: MSC (Miscellaneous)  
(blends of rubber-reinforced arom. vinyl resins and polyolefins and vinyl copolymers and)

IT Chemically resistant materials  
Heat-resistant materials  
Impact-resistant materials  
(blends of rubber-reinforced arom. vinyl resins and polyolefins and vinyl copolymers and polyamides)

IT Alkenes, polymers  
RL: USES (Uses)  
(polymers, blends with vinyl copolymers and rubber-reinforced arom. vinyl resins and polyamides)

IT 25038-54-4, Poly[imino(1-oxo-1,6-hexanediyl)], miscellaneous  
RL: MSC (Miscellaneous)  
(blends with polyolefins and vinyl copolymers and rubber-reinforced arom. vinyl resins)

IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene  
RL: USES (Uses)  
(blends with vinyl copolymers and rubber-reinforced arom. vinyl resins and polyamides)

IT 27341-67-9P 38684-13-8P, Acrylic acid-**acrylonitrile**-**methyl methacrylate**-**styrene** copolymer  
RL: PREP (Preparation)  
(prepn. of, blends with polyolefins and polyamides and rubber-reinforced arom. vinyl resins)

IT 106677-58-1P, **Acrylonitrile**-**butadiene**-**styrene** **graft** copolymer 107592-06-3P, **Acrylonitrile**-**butadiene**-**methyl methacrylate**-**styrene** **graft** copolymer  
RL: PREP (Preparation)  
(prepn. of, blends with polyolefins and vinyl copolymers and polyamides)

L16 ANSWER 21 OF 35 CAPLUS COPYRIGHT 2003 ACS  
AN 1993:496998 CAPLUS  
DN 119:96998  
TI Thermoplastic resin compositions with heat- and impact- and **solvent**-resistance  
IN Tokuda, Takashi; Sakai, Hidetoshi; Chiba, Kazumasa  
PA Toray Industries, Japan  
SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08L023-26  
ICS C08L025-08; C08L051-04; C08L051-06; C08L055-02; C08L077-00  
ICI C08L055-02, C08L051-06, C08L025-08, C08L077-00  
CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05070643	A2	19930323	JP 1991-235198	19910913
PRAI	JP 1991-235198		19910913		

polyolefins prep'd. by **graft-copoly**mg. 100 parts polyolefins with 0.05-10 parts .alpha.,.beta.-unsatd. carboxylic acids and/or their derivs. and 5-85% copolymers prep'd. by **graft-copoly**mg. 5-80 parts rubbers with 20-95 parts monomer mixts. comprising 20-90% arom. vinyl compds., 10-80% nitrile-contg. vinyl compds. and/or unsatd. carboxylic acid alkyl esters, and 0-40% copolymerizable vinyl monomers, (B) 3-70 parts modified-vinyl copolymers prep'd. from arom. vinyl compds., nitrile-contg. vinyl compds., and .alpha.,.beta.-unsatd. carboxylic acids, and (C) 1-50 parts polyamides. Thus, 30 parts **graft** copolymer prep'd. by **emulsion** polymn. of 60 parts (based on solids) **polybutadiene** rubber latex and 40 parts mixt. of 70% **styrene** and 30% **acrylonitrile**, 70 parts polymer prep'd. from 100 parts polypropylene and 3 parts maleic anhydride, 10 parts 25:5:70 **acrylonitrile-methacrylic acid-styrene** copolymer, and 8 parts CM1017. (nylon 6) were melt-kneaded, pelletized, and injection-molded to give test pieces showing Izod impact strength 280 J/m, flexural modulus 1500 MPa, and no change in MeOH and gasoline after 24 h at 23.degree..

ST thermoplastic resin blend impact strength; **solvent** resistance thermoplastic resin blend; rubber **graft** copolymer thermoplastic blend; polyolefin polyamide blend thermoplastic; nylon polyolefin blend thermoplastic; **acrylonitrile** methacrylic **styrene** copolymer blend; maleated polypropylene blend; ABS copolymer blend

IT Heat-resistant materials  
Impact-resistant materials  
(blends of rubber-reinforced arom. vinyl resins and vinyl polymers and polyamides as)

IT Polyamides, uses  
RL: USES (Uses)  
(blends with rubber-reinforced arom. vinyl resins and polyolefins and arom. vinyl copolymers, heat- and impact- and **solvent**-resistant)

IT Plastics, molded  
RL: USES (Uses)  
(rubber-reinforced arom. vinyl resin-vinyl polymer-polyamide, heat- and impact- and **solvent**-resistant)

IT Chemically resistant materials  
(**solvent**-resistant, blends of rubber-reinforced arom. vinyl resins and vinyl polymers and polyamides as)

IT 25038-54-4, CM 1017, uses  
RL: USES (Uses)  
(blends with rubber-reinforced arom. vinyl resins and polyolefins and arom. vinyl copolymers, heat- and impact- and **solvent**-resistant)

IT 108-31-6D, Maleic anhydride, reaction products with polyolefins 9002-88-4D, Polyethylene, maleated 9003-07-0D, Polypropylene, maleated  
RL: USES (Uses)  
(blends with rubber-reinforced arom. vinyl resins and vinyl copolymers and polyamides, heat- and impact- and **solvent**-resistant)

IT 106677-58-1P, **Acrylonitrile-butadiene-styrene** **graft** copolymer 107592-06-3P, **Acrylonitrile-butadiene-methyl methacrylate-styrene** **graft** copolymer  
RL: PREP (Preparation)  
(prepn. of, for blending with polyolefins and vinyl polymers and polyamides, for heat- and impact- and **solvent**-resistant products)

IT 25213-88-1P, **Acrylonitrile-methyl methacrylate-styrene** copolymer 38684-13-8P, **Acrylic acid-acrylonitrile-methyl methacrylate-styrene** copolymer  
RL: PREP (Preparation)  
(prepn. of, for blending with rubber-reinforced arom. vinyl resins and polyolefins and polyamides, for heat- and impact- and **solvent**-resistant products)

AN 1992:22258 CAPLUS  
 DN 116:22258  
 TI Polycarbonate-ABS molding compositions  
 IN Wittmann, Dieter; Eckel, Thomas; Ott, Karl Heinz; Kress, Hans Juergen;  
 Schoeps, Jochen  
 PA Bayer A.-G., Germany  
 SO Ger. Offen., 9 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 IC ICM C08L069-00  
 ICS C08L051-00; C08L067-02; E04B001-94  
 ICA C08J005-00; C08J005-18; C08F291-02; C08F002-02; C08F002-04; C08F002-22  
 ICI C08L069-00, C08L083-10; C08L051-00, C08L051-04, C08L051-06, C08L051-08,  
 C08L055-02; B29L031-10, B29L031-30, B29L031-34  
 CC 37-6 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	DE 4014419	A1	19911107	DE 1990-4014419	19900505
	EP 456030	A2	19911113	EP 1991-106486	19910423
	EP 456030	A3	19920708		

R: DE, FR, GB, IT  
 PRAI DE 1990-4014419 19900505  
 AB Blends with good flux, heat resistance, and low-temp. impact strength  
 contain arom. polycarbonates 10-95, **graft** polymers (prepd. from  
 50-99% mixt. of **styrene** or derivs., alkyl (meth)acrylates,  
 (meth)**acrylonitrile**, maleic anhydride, and/or maleimides and  
 rubbers with glass temp. < 10.degree.) 50-90, and **graft** polymers  
 [prepd. from monomers and rubbers as above [rubber av. particle size (D)  
 0.05-2 .mu.m] by **emulsion** polymn.] 0.1-50 parts. A blend of  
 bisphenol A polycarbonate 60, **bulk**-polymd. 25.1:9.2:65.7  
**graft** ABS 37, and **emulsion**-polymd. 80:2:18 **graft**  
**butadiene**-Bu acrylate-MMA **graft** copolymer (I) (rubber D  
 0.4 .mu.m) 3 parts had notched impact strength 81 and 56 kJ/m2 at room  
 temp. and -20.degree., resp.; viscosity 600 and 200 Pa-s at shear rate 100  
 and 1000/s, resp.; and a schlieren-free surface; vs. 70, 22, 400, 95, and  
 -, resp., without I.  
 ST impact resistance polycarbonate blend; **graft** polymer blend  
 polycarbonate; ABS **graft** blend polycarbonate; **butadiene**  
**graft** polymer blend; methacrylate **graft** polymer blend;  
 acrylate **graft** polymer blend  
 IT Polycarbonates, uses  
 RL: USES (Uses)  
 (blends with **graft** polymers, impact-resistant with good flow)  
 IT Impact-resistant materials  
 (polycarbonate-**butadiene graft** polymer blends)  
 IT Plastics, molded  
 RL: USES (Uses)  
 (polycarbonate-**graft** polymer blends, impact-resistant with  
 good flow)  
 IT 24936-68-3, Bisphenol A-carbonic acid copolymer, SRU, properties  
 25037-45-0, Bisphenol A-carbonic acid copolymer  
 RL: PRP (Properties)  
 (blends with **graft** polymers, impact-resistant with good flow)  
 IT 109179-82-0, **Butadiene**-butylacrylate-**methyl**  
**methacrylate graft** copolymer  
 RL: USES (Uses)  
 (blends with polycarbonates and **graft** ABS, impact-resistant  
 with good flow)  
 IT 106677-58-1, **Graft** ABS  
 RL: USES (Uses)  
 (blends with polycarbonates, impact-resistant with good flow)

TI IC wafer containers with good **solvent** and heat resistance  
IN Makihara, Masayuki; Tatsuno, Toshiro; Fujita, Mitsunobu  
PA Mitsui Toatsu Chemicals, Inc., Japan  
SO Jpn. Kokai Tokkyo Koho, 3 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
IC ICM H01L021-68  
ICS C08F020-42

ICA C08J005-00  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02265257	A2	19901030	JP 1989-85694	19890406
	JP 2507803	B2	19960619		
PRAI	JP 1989-85694		19890406		

AB Containers are molded from high-nitrile resins of unsatd. nitrile content .gtoreq.50%. A 0.7 mm-thick extrusion sheet was prepd. from high-nitrile resin [.apprx.70% **acrylonitrile** (I)] prepd. by **emulsion** polymn. of 75 parts I and 25 parts Me methacrylate in the presence of 10 parts nitrile rubber (70% **butadiene**) and vacuum-molded to give a 15 cm-deep container.

ST IC wafer **acrylonitrile** copolymer container; **solvent** resistant **acrylonitrile** copolymer container; soiling resistant **acrylonitrile** copolymer container

IT Containers  
(**acrylonitrile** copolymers, **solvent**- and soiling-resistant, for IC wafers)

IT Electric circuits  
(integrated, wafers, **acrylonitrile** copolymer containers for, **solvent**- and soiling-resistant)

IT 107592-06-3, **Acrylonitrile-butadiene-methyl methacrylate-styrene graft** copolymer  
113149-93-2, **Acrylonitrile-butadiene-methyl methacrylate graft** copolymer  
RL: USES (Uses)

(containers, **solvent**- and soiling-resistant, for IC wafers)

L16 ANSWER 24 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1988:57120 CAPLUS

DN 108:57120

TI Method of cleaning the interior of polymerization reactor

IN Komabashiri, Takamichi; Mitani, Toragoro; Yamauchi, Hiroaki; Yasui, Hideo

PA Kanegafuchi Chemical Industry Co., Ltd., Japan

SO Eur. Pat. Appl., 30 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C11D003-08

ICS C11D003-10; C11D003-43

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 46

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 248681	A2	19871209	EP 1987-305018	19870605
	EP 248681	A3	19890705		
	EP 248681	B1	19921216		
	R: BE, FR, GB				
	JP 62288605	A2	19871215	JP 1986-132575	19860606
	JP 02057802	B4	19901206		
PRAI	JP 1986-132575		19860606		

AB The interior surfaces of reactors used for **emulsion** or suspension polymn. and contaminated with polymer deposits are cleaned by



- alkali agent, and aq. soln. or dispersion of a surfactant, an org. solvent and/or polymerizable monomer, and, optionally, a plastic packing material. A stainless steel polymn. reactor used for the emulsion polymn. of **styrene** and **butadiene** and subsequent **grafting** with **methyl methacrylate** was washed with water, charged with 1:1 (vol.) **toluene**-water contg. Na<sub>2</sub>SiO<sub>3</sub>.9H<sub>2</sub>O 4.0, NaOH 1.0, and Na salt of .beta.-naphthalenesulfonic acid-HCHO condensate 0.5% and with 10 vol.% (based on cleaning soln.) polypropylene tellerette (diam. 4.5 cm), agitated 6 h at 80.degree., and agitated 6 h at 60.degree. with the addn. of 0.5 vol.% (based on water layer) K salt of semihardened tallow fatty acid to remove polymer deposits from the surfaces of the reactor, agitator, and baffle plates.
- ST polymn reactor cleaning compn; **butadiene** polymn reactor cleaner; **styrene** polymn reactor cleaner; methacrylate polymn reactor cleaner; **emulsion** polymn reactor cleaner; suspension polymn reactor cleaner; alkali cleaner polymn reactor; **solvent** cleaner polymn reactor
- IT Polymerization  
(app., **emulsion**, cleaning compns. for)
- IT Polymerization  
(app., suspension, cleaning compns. for)
- IT Detergents  
(cleaning compns., for **emulsion** and suspension polymn. reactors)
- IT Polyphosphoric acids  
RL: USES (Uses)  
(sodium salts, cleaners contg., for **emulsion** and suspensions polymn. reactors)
- IT 71-43-2, Benzene, uses and miscellaneous 80-62-6, **Methyl methacrylate** 108-88-3, **Toluene**, uses and miscellaneous 127-18-4, Tetrachloroethylene, uses and miscellaneous 144-55-8, Sodium bicarbonate, uses and miscellaneous 298-14-6, Potassium bi carbonate 497-19-8, Disodium carbonate, uses and miscellaneous 584-08-7, Dipotassium carbonate 1310-58-3, Potassium hydroxide, uses and miscellaneous 1310-73-2, Sodium hydroxide, uses and miscellaneous 1330-20-7, Xylene, uses and miscellaneous 1344-09-8 6834-92-0, Sodium metasilicate 7632-05-5, Sodium orthophosphate 7722-88-5 7758-29-4, Pentasodium tripolyphosphate 10006-28-7, Potassium metasilicate 14293-88-0, Potassium orthosilicate 15859-24-2  
RL: USES (Uses)  
(cleaners contg., for **emulsion** and suspensions polymn. reactors)
- IT 9003-53-6P, Polystyrene 107080-92-2P, **Butadiene-methyl methacrylate styrene graft** copolymer  
RL: PREP (Preparation)  
(prepn. of by suspension polymn., cleaning of reactor for)
- IT 9002-86-2P, PVC 9003-00-3P, **Acrylonitrile**-vinyl chloride copolymer  
RL: PREP (Preparation)  
(prepn. of, by **emulsion** polymn., cleaning of reactor for)

L16 ANSWER 25 OF 35 CAPLUS COPYRIGHT 2003 ACS  
AN 1987:478905 CAPLUS  
DN 107:78905  
TI Ambient-curable aqueous polymer **emulsions**  
IN Fujimoto, Masao; Yamashita, Takao; Matsumoto, Tsunetaka  
PA Kanebo NSC K. K., Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08G018-08  
ICA C09J003-16  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 42

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62013425	A2	19870122	JP 1985-152987	19850711
	JP 05086806	B4	19931214		
PRAI	JP 1985-152987		19850711		
AB	One-component, storage-stable <b>emulsions</b> useful as coatings and adhesives contain NCO-bearing polymers dispersed in ( <b>graft</b> ) block polymers with 2 opposite polar groups and further dispersed in hydrophobic solvents, and a 2nd polymer with NCO-reactive groups. The <b>emulsions</b> are cured at ambient temp. by removing the <b>solvent</b> . A dispersion of 40 mL <b>styrene</b> , 20 mL <b>acrylonitrile</b> , 20 g Duranate 24A100, 0.6 g AIBN, 7 g SBR, and 140 mL cyclohexane was mixed (150 mL) with water 185, Gantrez AN169 5, Noigen-120 5, and Noigen-140 5 g to give an <b>emulsion</b> stable for >3 mo. Heating Bu acrylate 35, Me methacrylate 50, <b>acrylonitrile</b> 10, hydroxyethyl acrylate 5, water 95, Ploron-208 2.5, Emulgen-920 2.5, and K2S2O8 0.8 g at 70.degree. for 5 h gave a 2nd polymer dispersion. A 9:10 mixt. of these dispersions was aged 1 day, coated to 0.5 mm on polyethylene, and cured at 30.degree. to give a film with swelling ratio 4.8 and extn. by dioxane 35% in 24 h, vs. 3.6 and 20, resp., when prepd. after 20 days storage.				
ST	<b>emulsion</b> polymer coating adhesive; crosslinking ambient polymer <b>emulsion</b> ; isocyanate deriv polymer <b>emulsion</b> ; acrylic polymer <b>emulsion</b> curable; hydroxyethyl acrylate polymer curable				
IT	Emulsifying agents (polymers with opposite polar groups, for ambient-curable polymer blends)				
IT	Rubber, <b>butadiene-styrene</b> , uses and miscellaneous RL: USES (Uses) (block, triblock, in ambient-curable blend <b>emulsions</b> )				
IT	Adhesives Coating materials ( <b>emulsion</b> , ambient-curable, acrylic polymers contg. isocyanate and isocyanate-reactive groups)				
IT	9003-54-7, <b>Acrylonitrile-styrene</b> copolymer 109882-93-1 109882-94-2, <b>Acrylonitrile-butyl acrylate-Duranate 24A100-2-hydroxyethyl acrylate-methyl methacrylate</b> copolymer 109882-95-3 109895-01-4 RL: USES (Uses) (in ambient-curable blend <b>emulsions</b> )				
IT	106107-54-4 RL: USES (Uses) (rubber, block, triblock, in ambient-curable blend <b>emulsions</b> )				

L16 ANSWER 26 OF 35 CAPLUS COPYRIGHT 2003 ACS  
AN 1987:441084 CAPLUS  
DN 107:41084  
TI Polymer particle preparation  
IN Sugimori, Teruhiko; Suzuki, Fumio; Habara, Hideaki; Inada, Hiromasa  
PA Mitsubishi Rayon Co., Ltd., Japan  
SO Eur. Pat. Appl., 20 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
IC ICM C08J003-12  
ICS C08F006-18; C08C001-065  
CC 37-6 (Plastics Manufacture and Processing)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 215321	A2	19870325	EP 1986-111519	19860820
	EP 215321	A3	19880921		
	EP 215321	B1	19930217		
	R: BE, DE, FR, GB, IT, NL				
	JP 62149726	A2	19870703	JP 1986-184959	19860806
	JP 06053810	B4	19940720		

CA 1281473 A1 19910312 CA 1986-516441 19860820  
 US 4977241 A 19901211 US 1987-140670 19871224

PRAI JP 1985-181820 19850821  
 JP 1985-191399 19850830  
 US 1986-898018 19860819

AB Void-free polymer agglomerates having high d., contg. no fine particles, easily handled, and consuming little energy in drying, are prepd. by agglomeration of primary particles from an **emulsion** with a coagulant and a hydrophobic **solvent**. Mixing 696 mL latex contg. 14.4 vol.% aq. soln. (278%) of 15:85 Bu acrylate-Me methacrylate copolymer, 17.4 vol.% hexane, and 1 phr H2SO4 at .apprx.500 rpm, coagulating, and steaming gave polymer agglomerates with particle size 106 .mu.-1.4 mm (90.3% 212 .mu.-1.4 mm), **bulk** d. 0.47, H2O content 32% after centrifugation, and good flow.

ST agglomeration latex polymer; coagulant latex sulfuric acid; hexane agglomeration polymer latex; acrylate copolymer latex agglomeration; methacrylate copolymer latex agglomeration

IT Agglomeration  
 (of polymer latexes, in presence of hydrocarbons for void-free particles)

IT 71-43-2, Benzene, uses and miscellaneous 108-88-3, **Toluene**, uses and miscellaneous 110-54-3, Hexane, uses and miscellaneous 142-82-5, Heptane, uses and miscellaneous  
 RL: USES (Uses)  
 (agglomeration of polymer latexes in presence of, for void-free particles)

IT 9003-56-9, **Acrylonitrile-butadiene-styrene** copolymer 25852-37-3, Butyl acrylate-**methyl methacrylate** copolymer 107080-92-2, **Butadiene-methyl methacrylate-styrene graft** copolymer  
 RL: USES (Uses)  
 (latex, agglomeration of, for void-free particles)

L16 ANSWER 27 OF 35 CAPLUS COPYRIGHT 2003 ACS  
 AN 1987:139321 CAPLUS  
 DN 106:139321  
 TI Manufacture of rubber-modified thermoplastic resin blends  
 IN Sugimori, Teruhiko; Tajiri, Takayuki; Fukuda, Yutaro  
 PA Mitsubishi Rayon Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08F291-02  
 ICS B01D011-04  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 39

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61272219	A2	19861202	JP 1985-114871	19850528
	JP 02012497	B4	19900320		
	CA 1281453	A1	19910312	CA 1986-509997	19860526
	AU 8657975	A1	19870108	AU 1986-57975	19860527
	AU 566800	B2	19871029		
	EP 208112	A2	19870114	EP 1986-107191	19860527
	EP 208112	A3	19880727		
	EP 208112	B1	19901219		
	R: DE, FR, GB				
	US 4690975	A	19870901	US 1986-867204	19860527
PRAI	JP 1985-114871		19850528		
	JP 1985-117056		19850530		
AB	Transparent title resins with little discoloration and good impact strength are manufd. by mixing latexes of vinyl- <b>grafted</b> rubbers and other thermoplastics with 0.2-6.0 parts (per part polymers) org.				

phases, and heating to dry the org. phase. A **graft** copolymer of **acrylonitrile** (I) and **styrene** (II) with a **polybutadiene** latex, an aq. I-II copolymer (III) suspension, and a 80:20 **toluene**/isopropanol soln. were mixed, then allowed to sep. An antioxidant and processing aid were added to the org. phase, which was then fed to a vented extruder to evap. the solvents. The resulting resin was injection molded at 230.degree. to obtain test pieces which showed yellow index 8 and Izod impact strength (at 20.degree.) 29 kg-cm/cm; vs. 21 and 21 kg-cm/cm when the **graft** copolymer latex was coagulated and mixed with the III and additives in dry form.

ST **solvent** extn **grafted** rubber latex; discoloration prevention rubber modified thermoplastic; transparency rubber modified thermoplastic blend; purifn rubber modified thermoplastic **emulsion**; soln mixing ABS latex thermoplastic

IT Extraction  
(of rubber-modified thermoplastic latex mixts., polymer blends prepd. by, for reduced discoloration)

IT Transparent materials  
(rubber-modified thermoplastic blends prepd. by mixing in latex form and **solvent** extn.)

IT Discoloration prevention  
(yellowing, of rubber-modified thermoplastic blends, by mixing in latex form and **solvent** extn.)

IT 9003-54-7, **Acrylonitrile-styrene** copolymer  
9011-14-7, **Methyl methacrylate** homopolymer  
RL: PROC (Process)  
(blending of, with rubber-modified thermoplastics, by latex mixing and **solvent** extn., for toughness and reduced discoloration)

IT 106677-58-1 107654-26-2  
RL: PROC (Process)  
(blending of, with thermoplastics, by latex mixing and **solvent** extn., for toughness and reduced discoloration)

L16 ANSWER 28 OF 35 CAPLUS COPYRIGHT 2003 ACS  
AN 1983:113485 CAPLUS  
DN 98:113485  
TI Treating water-in-oil dispersions  
IN Fogg, Sidney George; Robertson, Frank Charles; Wilson, Douglas  
PA British Petroleum Co. PLC, UK  
SO Eur. Pat. Appl., 15 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
IC B01D017-02; C02F001-40  
CC 61-5 (Water)  
Section cross-reference(s): 39, 51

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 62981	A2	19821020	EP 1982-301499	19820323
	EP 62981	A3	19840111		
	R: BE, DE, FR, GB, IT, NL, SE				
	ZA 8201804	A	19831026	ZA 1982-1804	19820317
	US 4420573	A	19831213	US 1982-359054	19820317
	AU 8281668	A1	19821007	AU 1982-81668	19820318
	CA 1169737	A1	19840626	CA 1982-398976	19820322
	JP 57171402	A2	19821022	JP 1982-47520	19820326
PRAI	GB 1981-9803		19810328		
	GB 1981-32137		19811024		
AB	Salt water-in-oil dispersions, e.g. chocolate mousse or other emulsified oil spills, are mixed with a dispersion of a rubber latex having a high wet gel strength; the mixt. exudes water thus thickening the dispersion. The dispersion may become solid, if sufficient latex is used. Suitable rubbers include natural rubber, polychloroprene rubber, <b>butadiene acrylonitrile</b> rubber, <b>styrene butadiene</b> rubber, and poly( <b>methylemethacrylate</b> ) <b>graft</b> natural				

a latex of a low or zero wet gel strength polymer, e.g. PVC [9002-86-2], poly(vinyl acetate), or polystyrene [9003-53-6]. A compatible solvent, e.g. toluene, or a filler, e.g. clay, may also be used. Thus, 10 g of a mousse was mixed with 4 g of a natural rubber latex 80 PVC latex 20% mixt. A nontacky solid formed in 5 min.

- ST oil spill removal rubber latex  
 IT Rubber, **butadiene-styrene**, uses and miscellaneous  
 Rubber, natural, uses and miscellaneous  
 Rubber, neoprene, uses and miscellaneous  
 RL: USES (Uses)  
 (in removal of oil spill **emulsions** from water surfaces)  
 IT Waters, natural  
 Waters, ocean  
 (oil spill **emulsion** removal from surface of, rubber latex dispersion for)  
 IT Petroleum  
 Petroleum  
 RL: REM (Removal or disposal); PROC (Process)  
 (oil spills, removal of, from water surfaces, by mixing with rubber latex dispersions)  
 IT 80-62-6D, polymers with natural rubber  
 RL: OCCU (Occurrence)  
 (**graft**, in oil spill **emulsion** removal from water surfaces)  
 IT 9002-86-2 9003-53-6  
 RL: OCCU (Occurrence)  
 (in oil spill **emulsion** removal from surface of waters, latexes of)

L16 ANSWER 29 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1977:485748 CAPLUS

DN 87:85748

TI Impact-resistant vinyl chloride resin compositions

IN Toratani, Takashi; Shimizu, Yoshimitsu

PA Denki Kagaku Kogyo K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C08L027-06

CC 36-3 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 52052950	A2	19770428	JP 1975-128684	19751025
	JP 57059863	B4	19821216		
PRAI	JP 1975-128684		19751025		

- AB Compns. of 40-80 parts PVC [9002-86-2] and 20-60 parts of blends of **bulk** and suspension or **bulk**-polymd. **butadiene-methyl methacrylate-styrene graft** copolymer (I) [25053-09-2] or **acrylonitrile-butadiene-methyl methacrylate-styrene graft** copolymer (II) [9010-94-0] .gtoreq.17.5, **emulsion**-polymd. I or II .ltoreq.17.5, and Me methacrylate-**styrene** copolymer [25034-86-0] .ltoreq.65% have good transparency, impact strength, and processability. Thus, 50 parts PVC was blended with 50 parts of a **bulk** and suspension- polymd. I and molded to give a fire-resistant product with Izod impact strength 8 kg-cm/cm, flow index 6.5 g/10 min (ASTM D 1238), heat distortion temp. 72.degree., haze 3, and fire resistance rating V0 (UL 94), compared with 2.2, 7.5, 62, 3, and 0, resp., for similar PVC alone.

- ST polyvinyl chloride fire resistance; impact resistance PVC blend; **styrene butadiene** methacrylate copolymer; **acrylonitrile butadiene** methacrylate copolymer; **graft** copolymer PVC blend  
 IT 25034-86-0

(blends with PVC and rubber-modified copolymers, for increased impact strength)  
 IT 9010-94-0 25053-09-2  
 RL: USES (Uses)  
 (blends with PVC, for increased impact strength)  
 IT 9002-86-2  
 RL: USES (Uses)  
 (blends with **butadiene-methyl methacrylate-styrene graft** copolymers, for increased impact strength)

L16 ANSWER 30 OF 35 CAPLUS COPYRIGHT 2003 ACS  
 AN 1975:44296 CAPLUS  
 DN 82:44296  
 TI Transparent impact-resistant resin compositions  
 IN Takashima, Yashiyuki; Hara, Toshio; Takizawa, Hidehiko  
 PA Denki Kagaku Kogyo K. K.  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 NCL 25(1)C318.3  
 CC 36-3 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49074239	A2	19740717	JP 1972-116028	19721118
PRAI	JP 1972-116028		19721118		

AB Mixts. of Me methacrylate (I) and (or) **acrylonitrile** [107-13-1] and **styrene** were dissolved in rubberlike polymers with refractive index practically the same as that of the mixts., **bulk**-polymd. (20-40%) at 90-130.degree. in the presence of 0.02-0.2 wt.% dicumyl peroxide (II), mixed further with 0.05-0.5 wt.% II and suspension-polymd. (100%) at > 120.degree.. The polymers obtained were mixed (50-100:0-50) with **graft** polymers obtained by **emulsion**-polymg. 100 parts(as solid) rubberlike polymer lattices with 40-150 parts I and (or) **acrylonitrile**. Thus, 6.5 parts **butadiene-styrene** copolymer, n<sub>25D</sub> =1.538, was dissolved in a mixt. of 42.5 parts **styrene** and 57.5 parts I, mixed with 0.1 part II, polymd. for 1.5 hr at 110.degree., mixed with 0.2 part tert-dodecyl mercaptan (III), polymd. (20%) at 110.degree. and 100 rpm, mixed with 0.2 part II and 0.2 part III, added to a soln. of Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub> 2, H<sub>2</sub>O 200, and Na dodecylbenzenesulfonate 0.01 part, and suspension-polymd. for 5, 3, and 5 hr, resp., at 100, 110, and 130.degree. to give polymer A beads. Sep., 5 parts **styrene-butadiene** copolymer (25:75) latex (35% solids and 50m.mu. particle size) was mixed with H<sub>2</sub>O 200, Na stearate 1, **styrene** 25, **butadiene** 75, III 0.4, and K<sub>2</sub>S<sub>2</sub>O<sub>8</sub> 0.3 part, stirred for 40 hr at 60.degree., mixed with 150 parts H<sub>2</sub>O and 0.3 part K<sub>2</sub>S<sub>2</sub>O<sub>8</sub>, mixed at 60.degree. during 10 hr with 45.5 parts I and 34.5 parts **styrene**, and heated for 5hr at 60.degree. to give a **graft** copolymer B, n<sub>25D</sub> =1.537. Then, a mixt. of polymer A 85, copolymer B 15, and di-tert-butylhydroxytoluene 0.2 part was pelleted, and injection-molded at 230.degree. to give a testpiece with Izod impact strength 7.2 kg/cm and turbidity 2.2%.

ST impact resistance resin; transparency resin; methacrylate rubber **graft** polymer; **acrylonitrile** rubber **graft** polymer; SBR **graft** polymer; **styrene graft** polymer; **butadiene graft** polymer

IT 2-Propenenitrile, polymers with **methyl methacrylate, styrene** and rubberlike polymers  
 RL: USES (Uses)  
 (blends, impact-resistant transparent)

IT 25053-09-2  
 RL: USES (Uses)  
 (graph, blends, impact-resistant transparent)

AN 1975:4935 CAPLUS  
 DN 82:4935  
 TI Impact-resistant blend polymers  
 IN Shima, Takesaburo; Kondo, Masatsune  
 PA Sumitomo Chemical Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 NCL 25(1)C318.11; 25(1)B32  
 CC 36-3 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49052853	A2	19740522	JP 1972-94404	19720919
	JP 55022507	B4	19800617		
PRAI	JP 1972-94404		19720919		

AB Monovinyl arom. monomer and cyanovinyl monomer or a methacrylate ester, contg. 2-15% rubber were **bulk**-copolymd. in the presence of Bz2O2 followed by suspension copolymn. to give a **graft** copolymer (particle size 0.2-0.8 .mu.) which was blended in 10-80:90-20 ratio (to total rubber content .gtoreq.5%) with a **grafted** rubber (particle size 0.25-0.5 .mu., rubber content 10-50%) obtained by **emulsion** polymn. of monovinyl arom. monomer and cyanovinylmonomer or a methacrylate ester in a rubber latex to give an impact-resistant blend. For example, a mixt. of Diene NF-35A 8, **styrene** 70, **acrylonitrile** 30, Bz2O2 0.03, and tert-dodecyl mercaptan 0.05 part was stirred at 70.degree. for 8 hr (24.4% conversion), treated with lauroyl peroxide 0.7, tert-dodecylmercaptan 0.5, Gohsenol GH-20 0.2, hydroxybutyl Me cellulose 0.05, Na dioctyl sulfosuccinate 0.05, NaHSO3 0.15, Na2SO4.10H2O 6, **acrylonitrile** 6, and water 300 parts, and stirred at 75.degree. for 3 hr to give **graft** polymer (I) [9003-56-9] (particle size in the suspension 0.41 .mu.). A 50% **polybutadiene** latex (200 parts) at 65.degree. was treated with a mixt. of **styrene** 140, **acrylonitrile** 60, and tert-dodecyl mercaptan 0.6 part and with a soln. from water 200, Na rosinate 4, NaOH 0.2, and K2S2O8 1.4 parts over 6 hr and heated at 65.degree. for 2 hr to give **graft** polymer (II, particle size in **emulsion** 0.43 .mu.). A 50:50 I-II blend contg. 0.5 phr Ca stearate and 0.3 phr 2,6-di-tert-butyl-4-methylphenol had Charpy impact strength 27.1 kg-cm/cm2, yield strength 492 kg/cm2, bending strength 540 kg/cm2, Rockwell R hardness 111, heat distortion temp. 95.6.degree., and gloss 97%, compared with 33.9 (10.6), 323 (615), 421 (705), 67 (120), 91.8 (96.2), and 94 (98), resp., for I (II) alone.

ST ABS property control; **butadiene** methacrylate **styrene** polymer

IT Particle size  
 (of ABS and **butadiene-methyl methacrylate**  
 -**styrene graft** polymer blends, properties in  
 relation to)

IT 9003-56-9 25053-09-2

RL: USES (Uses)

(**graft**, property control of, by blending)

L16 ANSWER 32 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1972:435558 CAPLUS

DN 77:35558

TI Transparent **styrene** copolymers with impact resistance

IN Goto, Takeshi; Kishi, Ikuji; Sakamaki, Shozo

PA Electro Chemical Industrial Co., Ltd.

SO Jpn. Tokkyo Koho, 5 pp.

CODEN: JAXXAD

DT Patent

LA Japanese

IC C08F

CC 36-3 (Plastics Manufacture and Processing)

FAN.CNT 1

PI JP 46032748 B4 19710923 JP 1968-21797 19680404  
 AB Transparent, impact-resistant resin compns. were prepd. from 40-95 parts of **styrene-butadiene-methyl methacrylate graft** copolymer (I) [25053-09-2] and 60-5 parts of **styrene-butadiene-acrylonitrile-Me methacrylate graft** copolymer (II) [9010-94-0]. I (4-10% backbone polymer) was prepd. by successive **bulk-** and suspension-**grafting** of SBR with **styrene** (III) and Me methacrylate (IV); the difference in the refractive indexes of SBR and a copolymer obtained from the **graft** monomer mixt. was <0.005. II was prepd. by **emulsion-grafting** of 100 parts SBR (having the same refractive index as that of SBR in the prepn. of I) in a latex with 40-150 parts of a III-IV-**acrylonitrile** mixt. For example, a soln. of 6.5 parts SBR (25% III, nD25 1.537) in a mixt. of 42.5 parts III and 57.5 parts IV, contg. 0.2 part tert-dodecyl mercaptan and 0.04 part Bz2O2 was heated at 90.deg. (30% conversion), treated with 0.2 part dicumyl peroxide, dispersed into an aq. soln. of 2 parts Ca phosphate in 200 parts water, and heated at 100-30.deg. to give I. A mixt. of III 25, **butadiene** 75, tert-dodecyl mercaptan 0.2, K oleate 3, K2S2O8 0.1, and water 200 parts was heated at 50.deg. for 20 hr (nD25 1.537 for SBR formed), treated with III 40, **acrylonitrile** 10, IV 55, K2S2O8 0.3, and water 200 parts and heated at 50.deg. for 6 hr to give II. An 80:20 I-II blend had impact strength (ASTM D 256) 9.6 kg-cm/cm2 and transparency (ASTM D 1003) 88%, compared with 6.5 kg-cm/cm2 and 92%, resp., for I and 4.9 kg-cm/cm2 and 85%, resp., for II.

ST **styrene** resin impact strength; transparency **styrene** resin; SBR **bulk grafting**; suspension **grafting** SBR

IT Polymerization  
 (graft, of vinyl compds. on SBR, for impact-resistant blends)

IT Rubber, **butadiene-styrene**, preparation  
 (vinyl compd.-**grafted**, for impact-resistant blends)

IT 9010-94-0 25053-09-2  
 RL: USES (Uses)  
 (graft, impact-resistant plastic blends contg.)

L16 ANSWER 33 OF 35 CAPLUS COPYRIGHT 2003 ACS  
 AN 1968:41239 CAPLUS  
 DN 68:41239  
 TI Thioated cellulosic-amylaceous substrate-ethylen-cally unsaturated monomer **graft** copolymer  
 IN Faessinger, Robert W.; Conte, John S.  
 PA Scott Paper Co.  
 SO U.S., 21 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 NCL 260017400  
 CC 43 (Cellulose, Lignin, Paper, and Other Wood Products)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3359224		19671219	US	19661207
AB	A water-insol., cellulosic or amylaceous monothiocarbonate or dithiocarbonate polymeric substrate is treated via peroxidic free radical initiated <b>graft</b> polymn., with an ethylenically unsatd. monomer to produce a <b>graft</b> copolymer. Typically, 10 parts of dry, defibered, bleached southern pine sulfate pulp was treated with 0.25M Na silicate soln. to cover the pulp, the mix was kept at room temp. 0.25 hr., then filtered to such a dryness that the alk. wet pulp retained 100% of its wt. of Na silicate soln. The cellulose pad was crumbled and evacuated over CS2, after 2 hrs., the dithiocarbonated pulp crumbles were washed with 300-50 parts water to remove all sol. products, the dithiocarbonated pulp was uniformly dispersed in a previously prepd. <b>emulsion</b> consisting of <b>styrene</b> 9, <b>acrylonitrile</b> 1, water 300,				



parts. The mixt. was kept at room temp. for 24 hrs., the pulp was removed from the polymn. mixt., thoroughly washed with water, and a product weighing 17.85 parts (89.6% theory) was obtained. Prolonged extn. of the material with trichloroethylene indicated that 69.2% of the monomer which was converted to the polymer could not be extd. Similarly, 10 parts of dry defibred bleached southern pine sulfate pulp was defibred and treated with the monomers to give [alk. salt, concn. of alk. soln., % yield, % nonextractable polymer given]: NaOH, 0.5M, 84.3, 44.2; Na<sub>2</sub>S, 0.25M, 88.5, 50.5; NaCN, 0.25M, 79.0, 78.4; Na<sub>2</sub>O.AlO<sub>2</sub>, 0.25M, 87.3, 78.0; Na<sub>2</sub>CO<sub>3</sub>, 0.25M, 75.0, 68.5; (NH<sub>4</sub>)<sub>2</sub>S, 0.25M, 62.5, 86.1. Alternatively, 10 parts dry bleached pine sulfate pulp was defibred in sufficient 1% NaOH and filtered to a retention of 100% alkali soln. The alkali cellulose was then thiocarbonated over CS<sub>2</sub>, the resulting Na cellulose anhydroglucose monothiocarbonate was washed well with 300 parts water, then with 25 parts 0.25M Pb(OAc)<sub>2</sub> dild. with 75 parts water, the lead cellulose anhydroglucose monothiocarbonate pulp was washed with 150 parts water, then uniformly dispersed in an **emulsion** contg. water 300, **styrene** 9, **acrylonitrile** 1, Tween 85 0.5, and 30% H<sub>2</sub>O<sub>2</sub> 3 parts. The mixt. was kept at room temp. for 24 hrs., the pulp was removed from the polymn. medium, thoroughly washed with water, and dried to yield 16.7 parts (83.5%) pulp. Repeated extns. with trichloroethylene indicated that 90.3% of the monomer converted to the polymer was unextractable. Also, an aged viscose dope soln., contg. 6.5% cellulose, was pumped through a spinneret and through a 2-ft. long coagulating bath of 10% H<sub>2</sub>SO<sub>4</sub>, 1% Na<sub>2</sub>SO<sub>4</sub>, 1% glucose, and 1% ZnSO<sub>4</sub>. On emergence from the coagulating bath, the filaments fell into an aq. bath consisting of a satd. soln. Na<sub>2</sub>CO<sub>3</sub>; the fibers were kept in the Na<sub>2</sub>CO<sub>3</sub> 15 min. to give 1.5 parts thiocarbonate contg. regenerated cellulose. The thiocarbonate was suspended in the **emulsion** contg. Et acrylate 9.3, Tween 85 0.5, water 40, and 30% H<sub>2</sub>O<sub>2</sub> 3.0 parts, the mixt. was kept at room temp. for 18 hrs., the copolymd. regenerated cellulose was removed from the polymn. mixt., washed throughly with water, and gave a product after oven drying weighing 8.2 parts (72.5% conversion), which upon prolonged extn. with **acetone** indicated that 65.0% of the polymer was nonexchangeable. Similarly, 25 parts of a viscose dope soln. was poured into a container contg. 6.0 parts H<sub>2</sub>SO<sub>4</sub> and 300 parts satd. Na<sub>2</sub>SO<sub>4</sub>, the regenerated cellulose was filtered and washed throughly with water to remove all sol. by-products, immediately after washing, 100 parts of 0.06M Ca(NO<sub>3</sub>)<sub>2</sub> was passed over and through the Na thiocarbonate contg. regenerated cellulose to form its Ca deriv. by metathesis, the Ca contg. product was washed with water, and was added to an **emulsion** prepd. from Et acrylate 9.3, water 50, Tween 85 0.5, and 30% H<sub>2</sub>O<sub>2</sub> 3.0 parts, the mixt. was kept at room temp. for 18 hrs., the regenerated cellulose copolymer was washed with water and dried to give 9.6 parts copolymer (86.5% conversion), which on prolonged extn. in **acetone** showed that 80.5% of the copolymer was unextractable. Similarly, various salts were used in the metathesis reaction to form the various derivs., including as cation, ferrous, Pb, Al, Mg, or Zn salts. Monomers similarly used were Bu acrylate, glycidyl acrylate, 2-cyanoethyl acrylate, methacrylic acid, methacrylamide, Me methacrylate, Et methacrylate, hydroxyethyl methacrylate, hydroxypropyl methacrylate, glycidyl methacrylate, vinylidene chloride, Na p-styrenesulfonate, N,N-dimethylaminoethyl acrylate, 2-ethylhexyl acrylate, vinyl chloride, vinyl acetate, **isoprene**, **styrene**, and vinyltoluene. Similarly converted cellulosic materials contain potato starch.

ST COPOLYMERS CELLULOSE **GRAFT**; **GRAFT** COPOLYMERS

CELLULOSE; CELLULOSE **GRAFT** COPOLYMERS; AMYLACEOUS COPOLYMERS;

THIOATED CELLULOSE COPOLYMERS

IT Polymerization catalysts

(tert-butyl hydroperoxide and diammonium peroxydisulfate and hydrogen peroxide as, for cellulose xanthate salts and starch xanthate salts with vinyl compds.)

IT Acrylic acid methyl ester, polymers with cellulose xanthate salts and starch xanthate salts

RL: SPN (Synthetic preparation); PREP (Preparation)  
(**graft**)

- RL: PREP (Preparation)  
(polymer with cellulose xanthate salts and **methyl methacrylate, graft**, in presence of hydrogen peroxide)
- IT Methacrylic acid methyl ester, preparation  
**Isoprene**  
RL: PREP (Preparation)  
(polymers with **acrylonitrile** and cellulose xanthate salts, **graft**, in presence of hydrogen peroxide)
- IT Acrylic acid ethyl ester  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(polymers with **acrylonitrile** and cellulose xanthate salts, **graft**, prepn. of, in presence of hydrogen peroxide)
- IT Acetic acid vinyl ester, preparation  
**Acrylonitrile**, preparation  
Methacrylic acid methyl ester, preparation  
RL: PREP (Preparation)  
(polymers with cellulose xanthate salts and ethyl acrylate, **graft**, in presence of hydrogen peroxide)
- IT **Acrylonitrile**, preparation  
RL: PREP (Preparation)  
(polymers with cellulose xanthate salts and **isoprene, graft**, in presence of hydrogen peroxide)
- IT Acetic acid vinyl ester, preparation  
RL: PREP (Preparation)  
(polymers with cellulose xanthate salts and **methyl methacrylate, graft**, in presence of hydrogen peroxide)
- IT Acrylic acid ethyl ester  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(polymers with cellulose xanthate salts and **methyl methacrylate, graft**, prepn. of, in presence of hydrogen peroxide)
- IT Acetic acid vinyl ester, preparation  
**Acrylonitrile**, preparation  
Ethylene, 1,1-dichloro-, preparation  
Methacrylic acid methyl ester, preparation  
Acrylamide  
Acrylic acid butyl ester  
RL: PREP (Preparation)  
(polymers with cellulose xanthate salts and starch xanthate salts, **graft**)
- IT Acrylic acid ethyl ester  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(polymers with cellulose xanthate salts and starch xanthate salts, **graft**, prepn. of)
- IT Acrylic acid  
RL: USES (Uses)  
(polymers with cellulose xanthate salts and starch xanthates, salts, **graft**)
- IT Acetic acid vinyl ester, preparation  
**Acrylonitrile**, preparation  
Methacrylic acid methyl ester, preparation  
Acrylic acid ethyl ester  
RL: PREP (Preparation)  
(polymers with cellulose xanthate salts and **styrene, graft**, in presence of hydrogen peroxide)
- IT Methacrylic acid methyl ester, preparation  
Acrylic acid ethyl ester  
RL: PREP (Preparation)  
(polymers with cellulose xanthate salts and vinyl acetate, **graft**, in presence of hydrogen peroxide)
- IT **Styrene**, preparation  
RL: PREP (Preparation)  
(polymers with cellulose xanthate salts and vinyl compds., **graft**, in presence of hydrogen peroxide)

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polymers with cellulose xanthate salts **graft**, prepn. of, in presence of hydrogen peroxide)

IT 1,3-Butadiene, preparation  
 Ethylene, chloro-, preparation  
 Methacrylic acid, preparation  
 RL: PREP (Preparation)  
 (polymers with cellulose xanthate salts, **graft**, in presence of hydrogen peroxide)

IT Ethylene, 1,1-dichloro-, preparation  
 RL: PREP (Preparation)  
 (polymers with chloroethylene and cellulose xanthate salts, **graft**, in presence of hydrogen peroxide)

IT Carbonic acid, dithio-, O-ester with starch, salts  
 Carbonic acid, thio-, O-ester with cellulose, S-salts  
 Carbonic acid, thio-, O-ester with starch, S-salts  
 Cellulose, hydrogen dithiocarbonate, aluminum salt  
 Cellulose, hydrogen dithiocarbonate, ammonium salt  
 Cellulose, hydrogen dithiocarbonate, calcium salt  
 Cellulose, hydrogen dithiocarbonate, cobalt(2+) salt  
 Cellulose, hydrogen dithiocarbonate, iron(2+) salt  
 Cellulose, hydrogen dithiocarbonate, iron(3+) salt  
 Cellulose, hydrogen dithiocarbonate, lead(2+) salt  
 Cellulose, hydrogen dithiocarbonate, magnesium salt  
 Cellulose, hydrogen dithiocarbonate, manganese(2+) salt  
 Cellulose, hydrogen dithiocarbonate, sodium salt  
 Cellulose, hydrogen dithiocarbonate, tetrakis(2-hydroxyethyl)phosphonium salt  
 Cellulose, hydrogen dithiocarbonate, trimethylsulfonium salt  
 Cellulose, hydrogen dithiocarbonate, zirconium salt  
 Cellulose, hydrogen thiocarbonate, iron(2+) salt  
 Cellulose, hydrogen thiocarbonate, magnesium salt  
 Cellulose, hydrogen thiocarbonate, zinc salt  
 Phosphonium, tetrakis(2-hydroxyethyl)-, salt with cellulose dithiocarbonate  
 Starch, hydrogen dithiocarbonate, aluminum salt  
 Starch, hydrogen dithiocarbonate, ammonium salt  
 Starch, hydrogen dithiocarbonate, iron(2+) salt  
 Starch, hydrogen dithiocarbonate, lead(2+) salt  
 Starch, hydrogen dithiocarbonate, nickel salt  
 Starch, hydrogen dithiocarbonate, sodium salt  
 Starch, hydrogen dithiocarbonate, zinc salt  
 Starch, hydrogen thiocarbonate, S-aluminum salt  
 Starch, hydrogen thiocarbonate, S-ammonium salt  
 Starch, hydrogen thiocarbonate, S-cobalt(2+) salt  
 Starch, hydrogen thiocarbonate, S-iron(2+) salt  
 Starch, hydrogen thiocarbonate, S-lead(2+) salt  
 Starch, hydrogen thiocarbonate, S-nickel salt  
 Starch, hydrogen thiocarbonate, S-sodium salt  
 Starch, hydrogen thiocarbonate, S-zinc salt  
 Sulfonium, trimethyl-, S-salt with cellulose hydrogen dithiocarbonate  
 RL: USES (Uses)  
 (vinyl compd.-**grafted**, in presence of hydrogen peroxide)

IT 2695-37-6  
 RL: USES (Uses)  
 (and starch xanthate salts, **graft**)

IT 75-91-2 7722-84-1, uses and miscellaneous  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, for **graft** polymn. of cellulose xanthate salts and starch xanthate salts with vinyl compds.)

IT 7727-54-0  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, for **graft** polymn. of cellulose xanthate salts starch xanthate salts with vinyl compds.)

IT 79-39-0 97-63-2 103-11-7 106-71-8 106-90-1 818-61-1 923-26-2  
 2867-47-2 25013-15-4

(polymers with cellulose xanthate salts and starch xanthate salts, **graft**)

IT 106-91-2  
RL: USES (Uses)  
(polymers with cellulose xanthate salts and starch xanthates, salts, **graft**)

IT 142-90-5  
RL: USES (Uses)  
(polymers with cellulose xanthate salts, **graft**, in presence of hydrogen peroxide)

IT 868-77-9P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(polymers with cellulose xanthate salts, **graft**, prepn. of)

IT 868-77-9P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(polymers with cellulose xanthate salts, **graft**, prepn. of, in presence of hydrogen peroxide)

IT 9004-34-6P, preparation  
RL: PREP (Preparation)  
(regenerated, vinyl compd.-**grafted**, in presence of hydrogen peroxide)

L16 ANSWER 34 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1965:432557 CAPLUS

DN 63:32557

OREF 63:5853b-f

TI Polymer dispersions

PA Rohm & Haas Co.

SO 9 pp.

DT Patent

LA Unavailable

IC C08F

CC 48 (Plastics Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	GB 992635		19650519	GB	
PRAI	US		19600901		

AB Anhyd. compns. of a linear addn. polymer, of which >90% by wt. has a particle size <10 .mu., dispersed by a hydrophobic **graft** copolymer in which the backbone polymer (I) being sol. in a hydrocarbon with **grafts** of a polymer sol. in the dispersed polymer in a liq. hydrocarbon, are described. The I is an oxidative degradation product of natural or synthetic rubber (II) sol. in the hydrocarbon with a viscosity of 1-1200 cp. at 25.degree.C. in a 10% soln. by wt. in mineral spirits. The II may be a copolymer (III) of **isoprene** with .gtoreq.1 C2-4 olefin, polybutene, a copolymer of isobutene and **isoprene**, or an ethylene-propylene copolymer. The III may contain acrylic or methacrylic esters such as Et acrylate, or Me methacrylate with or without 2-ethylhexyl acrylate, acrylic acid, or methacrylamide. The III may also contain an ester of acrylic or methacrylic acid, such as Bu acrylate, and **acrylonitrile** with acrylic or methacrylic acid, an ester of one of these with or without vinyltoluene, e.g. methacrylic acid, Me methacrylate, and vinyltoluene, or an ester of acrylic or methacrylic acid with acrylamide or methacrylamide. Poly(vinyl chloride) or poly(vinyl acetate) may also be used. The **graft** polymer used as dispersing agent may be formed in situ by **grafting** units from the addn. polymerizable monomer charge subjected to **emulsion** polymerization onto the oxidative degradation product. The polymerizations may be run by using a free radical initiator or by an anionic or cationic polymerization technique. For example, a 10% soln. (IV) of milled pale crepe rubber in mineral spirits was prepd. The viscosity was 1800 cp. Air at a rate of 2 parts (by vol.) per min. was bubbled through 2000 g. of IV contg. 1.22 g. of lauroyl peroxide for 1 hr. at 100.degree. C. Then, 2.5 g. of lauroyl peroxide, 1533 g. of mineral spirits (b. 310-394.degree. F.), and 1632 g. of the oxidized IV were

Bz202 in 477 parts Et acrylate and 583 g. Me methacrylate were stirred in and the temp. adjusted to 90.degree.C. A soln. of 2.5 g. Bz202 in 977 g. Me methacrylate and 1440 g. of **solvent** naphtha (b. 244-291 .degree.F.) was added during 3 hrs. at 90.degree.C. with stirring. The mixt. was heated 1 hr. and a soln. of 6 g. lauroyl peroxide in 60 parts of the same **solvent** naphtha was added in 3 hrs. After heating at 90.degree.C. for 1 hr., residual monomers and some residual **solvent** naphtha were distd. in vacuo. The polymer dispersion had 49.6% total solids. The dispersion was applied to Bonderized bare cold-rolled steel panels. After drying and baking 30 min. at 300.degree.F., the coatings had excellent adhesion and gloss.

- IT Polymerization  
 (acrylamide **graft**, on ethylene polymers with propene and biscyclopentadiene or 1,3,5-trivinylcyclohexane)
- IT Plastics and Resinous products  
 Polymers  
 Rubber  
 Rubber, substitute and synthetic  
 (dispersions of)
- IT Catalysts and Catalysis  
 (in polymerization (**graft**), of acrylamide, Na hydroxymethanesulfinate as)
- IT Coating(s)  
 (of iron, Fe alloys or steel (phosphate-treated), polymer dispersions for)
- IT Ethylene polymers, with propene, 1,3,5-trivinylcyclohexane and acrylamide, **graft**  
 Ethylene polymers, with propene, biscyclopentadiene and acrylamide, **graft**  
 Propene, 2-methyl- (isobutylene), homopolymer  
**Styrene**, ar-methyl-, homopolymer  
 (dispersions of)
- IT 79-10-7, Acrylic acid 9002-86-2, Ethylene, chloro-, homopolymer  
 9002-88-4, Ethylene polymers 9003-05-8, Acrylamide, homopolymer  
 9003-07-0, Propene polymers 9003-20-7, Vinyl acetate polymers  
 9003-31-0, **Isoprene**, homopolymer 9011-14-7, **Methyl methacrylate** polymers 25014-12-4, Methacrylamide, homopolymer  
 25087-26-7, Methacrylic acid, homopolymer  
 (dispersions of)
- IT 79-10-7, Acrylic acid  
 (ester polymers, dispersions of)
- IT 79-06-1, Acrylamide  
 (polymerization (**graft**) of, on ethylene polymers with propene and biscyclopentadiene or 1,3,5-trivinylcyclohexane, Na hydroxymethanesulfinate as catalysts in)

L16 ANSWER 35 OF 35 CAPLUS COPYRIGHT 2003 ACS

AN 1965:44799 CAPLUS

DN 62:44799

OREF 62:7985a-c,7986a

TI Shock-resistant polymers

IN Oldsberg, Lars O.; Schmitt, Joseph M.

PA American Cyanamid Co.

SO 35 pp.

DT Patent

LA Unavailable

CC 49 (Rubber and Other Elastomers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 638546		19640413	BE	
	GB 994924			GB	
	NL 297363			NL	
PRAI	US		19621016		

AB Vitreous alkyl methacrylate copolymers (I) (50-90 parts) are mixed with 5-50 parts **grafted** rubber copolymers (II) (rubber-

glycol monomer units 0.11, 1.11 refractive index difference 0.009 (max.)) to give shock-resistant compns. Thus, N is passed over a mixt. of H<sub>2</sub>O 390, 50% **polybutadiene emulsion** (H<sub>2</sub>O) 763, Me methacrylate (III) 90, **styrene** 293, **acrylonitrile** (IV). 68, PhC(OOH)Me<sub>2</sub> 2.25 parts, and emulsifier for 7 hrs., the mixt. agitated 10 min. at room temp., a soln. of 3.15 parts dihydroxyacetone in 200 parts H<sub>2</sub>O added, the mixt. agitated 5 min. and kept 12 hrs. to give an **emulsion** (V) contg. 50% solid materials, which gives a transparent film, nD 1.532. A mixt. of III 329, **styrene** 266, IV 105, PhMe 300, 2,5-dimethyl-2,5-bis(tert-butylperoxy)hexane 2, and lauryl mercaptan 1.4 parts is agitated 26 hrs. at 100.degree. and ground at 170.degree., as the PhMe and excess monomers are evapd., to give a product (VI), nD 1.532. V and VI are agitated 5 min. at 170.degree., the H<sub>2</sub>O and **solvent** are evapd., and the granulated product obtained is injection molded to give a transparent article, Izod impact strength 3.7 ft.-lb./in. notch.

- IT Polymerization  
     (**acrylonitrile graft**, with Me methacrylate and **styrene**, on **butadiene** rubbers, cumene hydroperoxide catalysts in)
- IT Rubber, substitute and synthetic  
     (**butadiene, graft** polymerization of **acrylonitrile**, Me methacrylate and **styrene** on, and shock-resistant mixts. with **acrylonitrile**-Me methacrylate-**styrene** polymers)
- IT SBR rubber  
     (polymerization (**graft**) of, with **acrylonitrile**-Me methacrylate-**styrene** polymer, for shock-resistant transparent compns.)
- IT Isocyanic acid, methylenedi-p-phenylene ester, urethan polymer elastomers from polyoxybutylene glycol, Me diethanolamine
- IT **Methyl methacrylate**, polymer with **acrylonitrile** and **styrene**  
     (and **graft** polymerization on **butadiene** rubber for shock-resistant compns.)
- IT **Acrylonitrile** polymers (including copolymers), elec. charge prevention on, **graft** with **methyl methacrylate, butadiene** and **styrene**  
     (and shock-resistant transparent articles therefrom)
- IT **Styrene** polymers, with Me methacrylate  
     (**graft**, on **butadiene** rubbers shock-resistant transparent articles from)
- IT **Methyl methacrylate** polymers, with **acrylonitrile** and **styrene**  
     (**graft**, with **butadiene** rubber, to shock-resistant films and molded articles)
- IT **Acrylonitrile, graft** polymer with Me methacrylate, **styrene** and **butadiene**  
     (on **butadiene** rubber for shock-resistant compns.)
- IT Glycols, polypropylene, polymer with methylene-di-p-phenylene isocyanate and Me diethanolamine  
     (urethan polymer elastomers from)
- IT 100-42-5, **Styrene**  
     (polymer with (**graft**) **acrylonitrile** and Me methacrylate, on **butadiene** rubber)

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